

Request for Proposal

Request for Proposals for the Design, Engineering, Procurement, and Construction of the Energy Storage Test Bed facility at the CSIR Scientia Site, Pretoria

RFP No. 3519/23/06/2022

Date of Issue	Wednesday, 01 June 2022	
Compulsory briefing session	Date: Wednesday, 08 June 2022 Time: 11H00 Venue: CSIR Scientia, Building 24	
Closing date for submission of proposals	Date: Thursday, 23 June 2022 Time: 16H30	
Tender submission	tender@csir.co.za	
Enquiries	Strategic Procurement Unit	E-mail: tender@csir.co.za
CSIR business hours	08h00 – 16h30	
Category	Design and Construction	

TABLE OF CONTENTS

1	DEFINITIONS AND ABBREVIATIONS	4
	SECTION A – TECHNICAL INFORMATION	5
1	INTRODUCTION	5
2	BACKGROUND	5
3	INVITATION FOR PROPOSAL	6
4	PROPOSAL SPECIFICATION	6
5	THE SCOPE OF WORK- WORKS INFORMATION	8
6	FUNCTIONAL EVALUATION CRITERIA	25
7	ELIMINATION CRITERIA	26
8	NATIONAL TREASURY CENTRAL SUPPLIER DATABASE REGISTRATION	26
	SECTION B – TERMS AND CONDITIONS	27
9	PROCEDURE FOR SUBMISSION OF PROPOSALS	27
10	TENDER PROGRAMME	27
11	SUBMISSION OF PROPOSALS	27
12	DEADLINE FOR SUBMISSION	28
13	AWARDING OF TENDERS	28
14	EVALUATION PROCESS	28
15	PRICING PROPOSAL	29
16	VALIDITY PERIOD OF PROPOSAL	29
17	APPOINTMENT OF SERVICE PROVIDER	29
18	ENQUIRIES AND CONTACT WITH THE CSIR	29
19	MEDIUM OF COMMUNICATION	30
20	COST OF PROPOSAL	30
21	CORRECTNESS OF RESPONSES	30
22	VERIFICATION OF DOCUMENTS	30
23	SUB-CONTRACTING	30
24	ADDITIONAL TERMS AND CONDITIONS	31
25	CSIR RESERVES THE RIGHT TO	32
26	BRIEFING SESSION LOGISTICS	32
	PLEASE TAKE NOTE OF THE FOLLOWING SAFETY PROTOCOLS TO FOLLOW WHEN VISITING THE CSIR SITE FOR THE BRIEFING SESSION/SITE INSPECTION:	32
27	DISCLAIMER	33
28	RETURNABLE DOCUMENTS	34

29	ANNEXURE A - SCHEDULE OF THE BIDDER'S EXPERIENCE	35
30	ANNEXURE B - ACTIVITY SCHEDULE	36
31	ANNEXURE C - PRICING PROPOSAL FORM	39
32	ANNEXURE D - DECLARATION BY BIDDER	40
33	ANNEXURE E – SCORING SHEET	41
34	ANNEXURE F – SBD 1 FORM	43

1 DEFINITIONS AND ABBREVIATIONS

Terms not explicitly defined herein will be taken to be consistent with the terms used in the National Building Regulations, the SANS 10400 series of standards as amended, the Architectural Profession Board Notice (Government Gazette No. 43591, 7 August 2020), Scope of Services and Tariff of Fees for Persons Registered in terms of the Engineering Profession Act, 46 of 2000 (Government Gazette No. 44333, 26 March 2021).

1.1 Project Stages for Normal Professional Services

Stage 1 –	Inception
Stage 2 -	Concept
Stage 3 -	Design Development
Stage 4 -	Documentation and Procurement
Stage 5 -	Contract Administration and Inspection
Stage 6 -	Close-Out

1.2 Abbreviations

ATEX	Equipment for potentially explosive atmospheres - (ATEX <u>Directive 2014/34/EU</u>)
DSI	Department of Science and Innovation
CSIR	Council for Scientific and Industrial Research
LEL	Lower Explosive Limit
LEV	Local Exhaust Ventilation
BOQ	Bill of quantities
ESD	Electro-Static Discharge
VP	Viewing Pane
PFC	Potential Free Contact
PLC	Programmable Logic Controller

SECTION A – TECHNICAL INFORMATION

1 INTRODUCTION

The Council for Scientific and Industrial Research (CSIR) is one of the leading scientific research and technology development organisations in Africa. In partnership with national and international research and technology institutions, CSIR undertakes directed and multidisciplinary research and technology innovation that contributes to the improvement of the quality of life of South Africans. The CSIR's main site is in Pretoria while it is represented in other provinces of South Africa through regional offices.

2 BACKGROUND

Battery Energy Storage Systems (BESS) are considered crucial for an effective and efficient renewable energy transition. In creating the opportunity to stock and deliver electricity when needed, BESS provides solutions to the non-programmability and intermittency of electricity flows which accompanies the widespread penetration of renewables. Furthermore, BESS offers increased flexibility and capacity to grid networks unable to handle the growing demand for electricity driven by both rapid economic and population growth in sub-Saharan Africa and the expected increasing share of renewable generators in the energy mix.

The CSIR, through a partnership with the Flemish Institute for Technological Research (VITO), secured funding to support the development of a battery energy storage test bed (ESTB).

An ESTB is a laboratory-scale testbed that can be used as a service for technology developers or importers who would like to characterise their technologies for market entry.

An Energy Storage Testbed/ Platform (ESTB/ ESTP) is key in developing battery energy storage technologies. A testbed is a platform for energy storage system testing with interchangeable features (technologies; and ancillary equipment) and controlled conditions (environmental, use cases; operational models). The ESTB would focus on large integrated systems with an initial focus on supporting grid storage and renewables.

The project scope of work includes the architectural and engineering design, construction, commissioning, and handover of the new ESTB facilities and services to house the ESTB test equipment and operations.

3 INVITATION FOR PROPOSAL

Proposals are hereby invited from CIDB Grade 3GB or higher registered contractors for the implementation of architectural and engineering design, construction, commissioning, and handover of the new ESTB facilities and services to house the ESTB test equipment and operations at the CSIR Campus in Pretoria.

4 PROPOSAL SPECIFICATION

All proposals are to be submitted in a format specified in this enquiry (if applicable).

Bidders are to submit responses in the following format prescribed below. Failure to adhere to this may result in disqualification and the tender may be deemed as non-responsive.

4.1 Technical Proposal (Part A)

The following must be submitted as part of the **technical** proposal:

- Covering letter on the company letterhead.
- The bidder must submit a list of completed laboratory projects for the handling of hazardous materials or high current equipment since 2011. A minimum of five (5) completed projects *similar* in nature is to be submitted. Bidders **must** use Annexure A for submission of their list. Completed projects must be for a construction area of more than 250m² for each project.
- The bidder must submit contactable reference letters from their clients / developers / principal agent, for *similar* projects completed since 2011. The letters must be of client' letterhead, indicative of the scope of work, project value, dated and signed. A minimum of three (3) reference letter must be submitted.
- The bidder must submit completion certificates for the completed projects. The completion certificates must be for projects completed since 2011, must be dated and signed. A minimum of five (5) completion certificates must be submitted. Completed projects must be for a construction area of more than 250m² for each project.
- The bidder must submit detailed CV of their Lead Professional Registered Engineer who will be assigned to the project should they be successful.
 - Must have a minimum of five (5) years' work experience in leading similar scope of work as contained in the scope of work.
 - ECSA registration certificate Professional Registered Engineer (PrEng/PrTechEng)

- The bidder must submit a detailed proposed organogram of the team to be deployed to the project should they be successful.
 - Bidder must submit CVs of staff to be deployed
 - Bidder must submit copies of the qualifications of the staff
- The bidder must submit detailed CV of their Professional Registered Architect who will be assigned to the project should they be successful
 - Must have a minimum of five (5) years' work experience in leading similar scope of work as contained in the scope of work
 - Must be registered with SACAP as a professional Architect (PrArch)
- The bidder should submit relevant quality and risk management accreditations.
- The bidder must submit a detailed proposed project methodology and approach with realistic time - frames, key tasks and critical path in PDF.

4.2 Financial Proposal (Part B)

The following must be submitted as part of the **financial** proposal:

- Proposed financial offer on an official company letter head detailing the bid amount in words and in figures
- Completed and duly signed Activity Schedule, Annexure B
- The pricing must be firm and inclusive of all costs required to render the required services to the CSIR. Anything outside the scope of this RFP must be quoted separately
- Provide a valid original or copy of B-BBEE certificate or valid sworn affidavit
- The pricing must be firm for a minimum period of 90 days and inclusive of all costs to render the required service
- CSD registration report (RSA suppliers only).

4.3 Mandatory Documents / Returnable Documents

The following documents must be submitted as part of the mandatory requirements:

- 4.3.1 A valid letter of good standing relevant to the scope of work from the Department of Labour (COIDA).
- 4.3.2 Provide proof of valid public liability cover or letter of intent issued by an Insurance Firm of a minimum R 3 000 000.00
- 4.3.3 Valid CIDB registration certificate/proof, Grade 3GB or higher

4.3.4 Proof of Lead Professional Engineer’s registration certificate (ECSA)

4.3.5 Proof of Lead Architect registration certificate (SACAP)

4.3.6 Completed and signed Bidders Declaration Form, Annexure D

5 THE SCOPE OF WORK- WORKS INFORMATION

Project details

The Scope of work is detailed herein. This includes, but is not limited to, the architectural and engineering design, construction, commissioning, and handover of the retrofitted building and services to house the ESTB test equipment and operations.

Type of building:	Light industrial; medium complexity
Location:	Building 24/G/33 & 31, CSIR Pretoria Campus, Scientia
Municipality:	Tshwane
Building size:	Single storey Under roof area: 200 m ² Total footprint area including hardscaping: 250 m ²

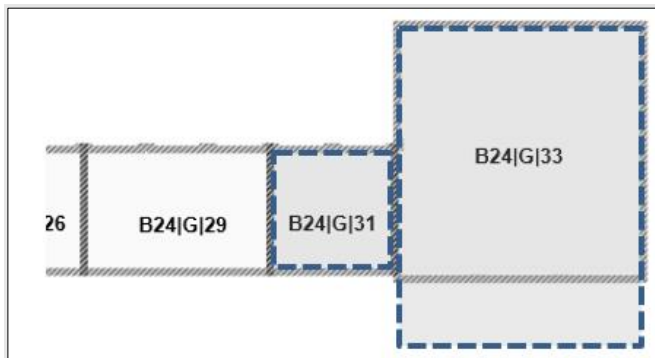


Figure 1 Concept plan

Brief

The design and construction brief for the ESTB Facility requires that a suitable facility be developed to house the CSIR’s Energy Storage Test Bed.

The facility is to comply with all relevant guidelines and regulations, including:

- National Building Regulations
- Any other applicable legislation, including local by-laws

- Gas (N2) reticulation and markings in accordance with national standards as applicable
- Electrical reticulation and markings in accordance with national standards as applicable

Sustainable design practices must be applied where reasonable and feasible to minimise the base-load energy consumption, material wastage, impact on the immediate natural environment and overall carbon footprint.

5.2.1 The facility must accommodate the spaces and equipment listed in Table 1 and based on the concept layout drawings prepared by the CSIR.

The design is to accommodate relevant mechanical, civil, structural, and electrical engineering services and is to be developed in co-ordination with all appointed subcontractors and service providers in these disciplines.

Sustainable building principles must be applied in the design development and specification of materials. Products holding ecolabels are to be specified where applicable and locally (South African) manufactured products must be specified if available.

The building is to be predominantly naturally ventilated (by means of openable windows and roof monitors) except where forced ventilation and air conditioning is necessary to comply with equipment, process, and requirements.

5.2.2 Finishes

Unless specified otherwise in the room accommodation schedule, the following finishes are a requirement:

- bump rails at suitable height in all test areas and circulation spaces
- smooth durable flooring all new laboratory areas
- durable floor coving in staff and public areas
- brick walls in laboratory to be plastered and painted
- dry walling to be skimmed and painted
- drop-in ceilings to be cleanable and fire-retardant

5.2.3 Room Accommodation Schedule

Table 1: Initial accommodation list

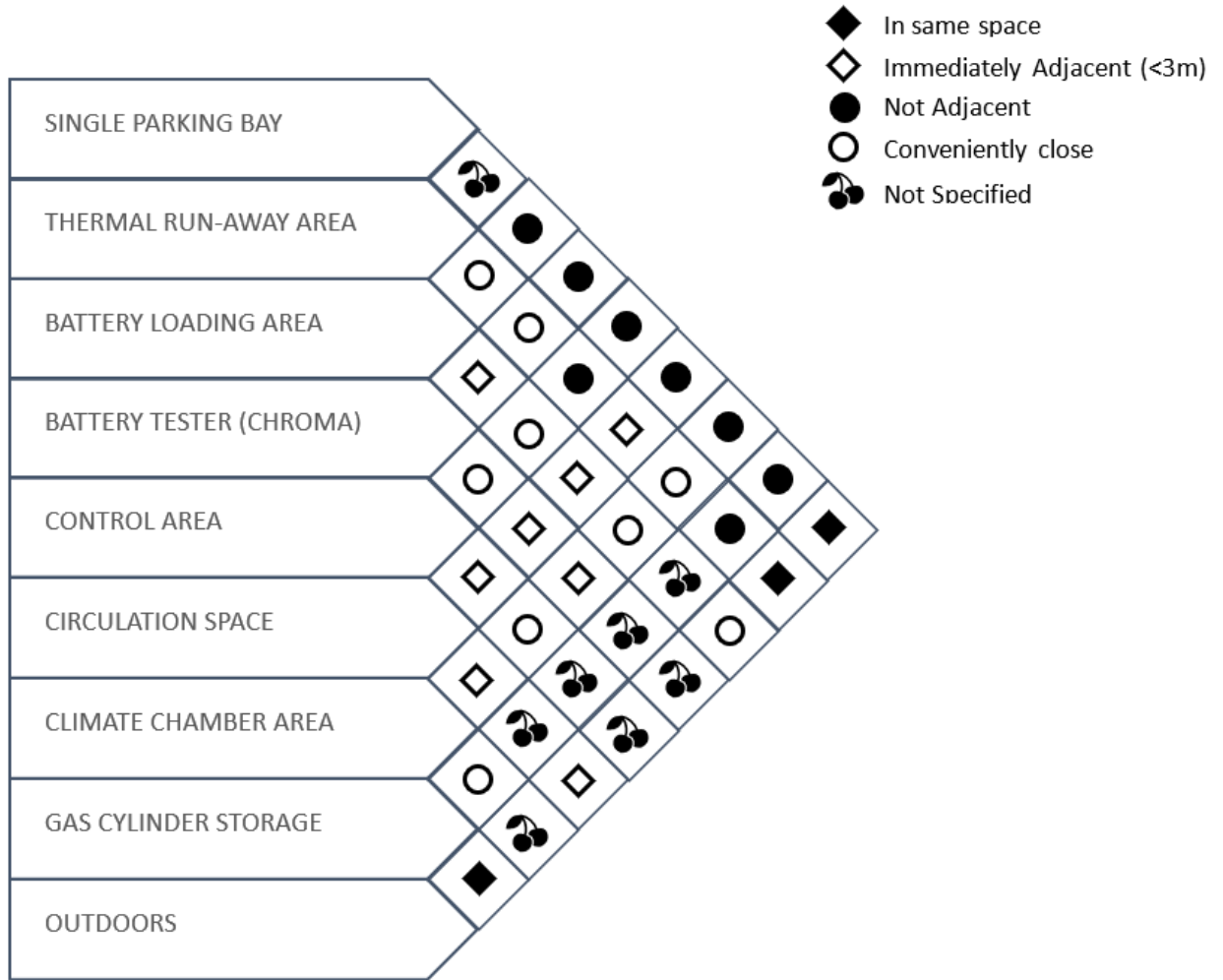
Space name	Equipment requirements	Walls	Doors	Floors	Ceiling	Electrical and Safety Equipment	Data	Lighting	Ventilation /Temp /RH (At working level)	Area (m ²)
1. Single Parking Bay	Parking lanes, Parking Markings, Barrier, Signage	None	NA	NA	None	None	none	None		12
2. Thermal Runaway Area	No Parking Markings, Barrier, Signage	None	NA	1.5m x 1.5m Thermal slab	None	None	None	None		24
3. General, Circulation, Staging Area	Emergency shower and eyewash station. (no drain)	Brick, Plaster and Painted, White, Bump rails	Access control personnel doors. Lockable roller doors	Continuous Durable, repairable safe flooring with skirting	Painted Soffit	1x 230V Utility SSO General Emergency "E-Stop" button for equipment shutdown	None	High-bay or pendant lighting Battery backup	NA	TBD
4. Weiss Chamber Area	Refer Annex C -N2 flushing (8a) 1h fire rating	Plaster and Painted, White. Drywall, Skimmed and painted white with VP	Lockable with VP 1.8m clear equipment access Room Label Safety Signage	Continuous Durable, repairable safe flooring with matching skirting	Drop-in, cleanable, 1 hour fire safe	1x 400V 32A (CEE connector) 5 wire welding plug, male and female IEC 309. SANS 60309-1: 2012 2x 230V Utility SSOs 1x 230V SSO backup power	2x data points (wiring by others)	Explosion proof LED fittings	NMT 30°C -Exhaust vent and overpressure vent	16

Space name	Equipment requirements	Walls	Doors	Floors	Ceiling	Electrical and Safety Equipment	Data	Lighting	Ventilation /Temp /RH (At working level)	Area (m ²)
5. Chroma Tester Area	Refer to Annex C -1h room fire rating	Plaster and Painted, White. Drywall, Skimmed and painted white. with VP	Lockable with VP 1.8m clear equipment access Room Label Safety Signage	Continuous, Durable, repairable safe flooring with matching skirting	Drop-in, cleanable, 1 hour fire safe	1x 400V 5 wire welding plug 2x 230V Utility SSOs 1x 230V SSO UPS power (by others) 3x (400V/ 63A) to be made available for hardwired/fixed connection to Chroma tester	2x data points (wiring by others)	Drop in LED fittings	25 ±5°C	16
6. Battery Loading Area	2h fire rating	Plaster and Painted, White. Drywall, Skimmed and painted white. with VP	Lockable with VP 1.8m clear equipment access Room Label Safety Signage	Continuous, Durable, repairable safe flooring with matching skirting	Drop-in, cleanable, 2-hour fire safe	1x 380V 5 wire welding plug 2x 230V Utility SSOs Fire detection and alarm		Explosion proof LED fittings	25 ± 2°C 3x LEV fume extraction 600 x 600 (TBD) or booth	40

Space name	Equipment requirements	Walls	Doors	Floors	Ceiling	Electrical and Safety Equipment	Data	Lighting	Ventilation /Temp /RH (At working level)	Area (m ²)
7. Double Gas Cylinder Cage	Incl 2x B50 Nitrogen Cylinders with gauges, regulators, pigtail connections, manifold, Fire-proof construction Easily removable cylinders Piping and marking in accordance with regulations and SABS standards.	Steel cage	Lockable gate Room Label Safety Signage	Screed over concrete	Chromadec IBR lean-to or similar	None	None	None	Natural ventilation	TBD
8. Store	NA	NA	Refurbish existing louvred door Room Label Safety Signage	Screed over concrete	NA	2x 230V Utility SSOs	None	Explosion proof LED fittings	25 ±5°C	TBD
9. Technical services area	Handrail Lockable Cat-ladder		NA	Screed over concrete	None	1x weatherproof 230V Utility SSO	None			TBD Reserve space for future expansion.

Space name	Equipment requirements	Walls	Doors	Floors	Ceiling	Electrical and Safety Equipment	Data	Lighting	Ventilation /Temp /RH (At working level)	Area (m ²)
10. Control area	0.6m x1.2m Workbench and stool	Plaster and Painted, White. Drywall, Skimmed and painted white. with VP	Lockable single with VP Room Label Signage	Continuous, Durable, repairable flooring with matching skirting	Drop-in, cleanable	2x 230V Utility SSOs	2x data points (wiring by others)	Drop-in LED	As per NBR	TBD
11. General			Create new personnel door for general external access, incl. signage, access control hardware and VP.			Fire detection to equipment interlock as per the emergency stop logic diagram Building Signage panel to obscure CSIR branding standards.				

5.2.4 Adjacency Matrix



5.2.5 Lab Equipment Data

The following lab equipment will be supplied by others

Regenerative Battery Tester: Chroma 17020



MODEL 17020

Key Features

- Regenerative battery energy discharge, efficiency 85%
- Energy saving
- Environment protection
- Low heat generate
- Channels paralleled for higher currents
- Charge/discharge modes (CC, CV, CP)
- Power Range: 600W, 1.25kW, 2.5kW, 5kW, 10kW, 20kW, 30kW, 50kW, 60kW per channel
- Voltage Range: 20V, 60V, 100V, 200V, 500V per channel
- Current Range: up to 2600A (parallel)
- Driving cycle simulation
- High precision measurement
- Fast current conversion
- Smooth current without over shoot
- Test data analysis function
- Data recovery protection (after power failure)
- Independent protection of multi-channel
- BMS data recording
- Thermal chamber control integration

Applications

- EV battery module
- Electric scooter
- Electric bike
- UPS
- Energy storage battery
- Power tools
- Car battery
- Lead-acid battery

GENERAL SPECIFICATIONS

Measurement by A692003 Thermal Sensor	
Temperature Range	0~90°C
Temperature Accuracy	±2°C
Temperature Resolution	0.1°C
Temperature Coefficient	
Voltage / Current	50ppm/°C
AC Power	
Voltage Range	1Ø 200~240V ±10% 3Ø 200~220Vac ±10% V _{LL} 3Ø 380~400Vac ±10% V _{LL} 47~63Hz for input AC power
Current THD	< 5% at rated power
Power Factor	> 0.9 at rated power
Controller to PC	
Data Acquisition Rate to PC *7	Minimum 40ms@ 4CH independent Minimum 10ms@ 4CH parallel Minimum 600ms@ 60CH independent Minimum 100ms@ 60CH parallel
Others	
Protection	OVP, UVP, OCP, OOP, OTP, ODVP, UDVP, ODCP, UDSCP, OPP, FAN (system protection), Short (system protection)
Efficiency (Typical)	85~90% at 20% rated power
Operating Temperature	0°C ~ 40°C
Storage Temperature	-40°C ~ 85°C
Operating Humidity	10 ~ 90% RH, non-condensing
Safety & EMC	CE
Dimension (H x W x D)	
5kW ~ 20kW	120cm x 60cm x 90cm
20kW ~ 30kW	170cm x 60cm x 90cm
40kW ~ 60kW	170cm x 60cm x 90cm x 2 racks

Note *1 : The output range of voltage is referred by the cabling.
 Note *2 : The connection between the device and battery is 3 meters long as standard accessory.
 The maximum discharge current will derate at low voltage range, please refer the detail V-I curve.
 Note *3 : The voltage range of the battery simulator and the constant voltage mode is 45V to 500V.
 Note *4 : When the rated load change from 10% to 90%, the item is stability time of voltage.
 Note *5 : When the bi-directional rated load change from -90% to 90%, the item is stability time of voltage.
 Note *6 : The spending time from zero to the maximum voltage is at no-load condition.
 Note *7 : 20µs sampling rate for calculating battery capacity and energy.

ORDERING INFORMATION

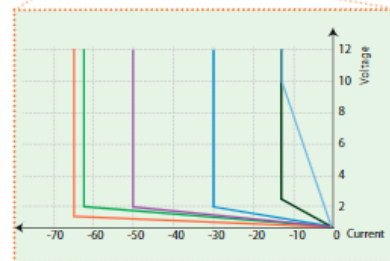
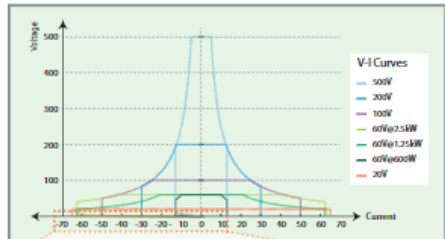
Regenerative Battery Pack Test System Model 17020

Power Range	Voltage	Current	Channels
600W	60V	13A	8~56
1.25kW	20V / 60V	65A / 62.5A	4~40
2.5kW	20V / 60V / 60V / 100V / 200V / 500V	130A / 125A / 62.5A / 50A / 30A / 13A	4~20
5kW	20V / 60V / 60V / 100V / 200V / 500V	260A / 250A / 125A / 100A / 60A / 26A	2~10
10kW	20V / 60V / 60V / 100V / 200V / 500V	520A / 500A / 250A / 200A / 120A / 52A	1~5
20kW	20V / 60V / 60V / 100V / 200V / 500V	1040A / 1000A / 500A / 400A / 240A / 104A	1~3
50kW	20V / 60V / 60V / 100V / 200V / 500V	2600A / 2500A / 1250A / 1000A / 600A / 260A	1
60kW	60V / 100V / 200V / 500V	1500A / 1200A / 720A / 312A	1

Others and Options

51101-64	Thermal/Multi-function Data logger, 64 channels
HIOKI 8423/8948	Data logger measurement unit
HIOKI 9683	Connection cable caption for HIOKI 8423
A170201	IPC for battery test system
A170202	Battery simulator softpanel
A692003	Thermal sensor with cable
A692000	BMS data communication unit, 4 Channels
A692001	BMS data communication unit, 8 Channels

17020 V-I CURVE OF OPERATING



Low Voltage Discharge



A692001 (8CH)

Get digital catalog by downloading Chroma ATE Solutions APP



Search Keyword

17020

Climate Chamber: Weiss Technik TempEvent T/1000/40/3

Technical Specifications:



TECHNICAL DATA		
Test space volume	l	990
Test space dimensions, HxWxD	mm	950x1100x950
Useable width	mm	1060
Total load of multiple insertion shelves and test space floor ¹	kg	250
Load of the test space floor ¹	kg	150
Load per insertion shelf ¹	kg	50
Total load for multiple insertion shelves ¹	kg	100
Exterior housing dimensions, HxWxD	mm	2000x1415x2030
Minimum exterior housing dimensions ² , HxWxD	mm	1900x1320x1755
Total weight	kg	840
Voltage rating ³		3/N/PE AC 400 V ± 10% 50 Hz
Power rating ⁴	kW	9.9
Current rating ⁵	A	18
Connector		CEE- connector, 32 A
Connection cable	m	3.5
Fuse protection ⁶	A, slow-blow	32
Protection class of switchgear cabinet and control unit ⁷		IP 54
Sound pressure level ⁸	dB(A)	62
Heat dissipation to the installation room, maximum	kW	8.9
Heat dissipation to the installation room, average	kW	4.8

¹ Max. load as surface load.

² For transport and move-in. Parts can be removed at additional expenses.

³ The test chamber can also be operated at 3/N/PE AC 380 V ± 10 % 50 Hz. In this case, the heating rate is reduced by approximately 10%.

⁴ The power rating quoted for **weisstechnik** and **vötschtechnik** products describes the maximum power consumption during operation at full load. As this state only occurs in rare cases, conclusions about energy consumption cannot be drawn from the power rating quoted.

⁵ Neutral conductor under load.

⁶ Provided by the customer.

⁷ EMC tests and information about emitted interference according to EN 61000-6-3:2007 / EN 61000-6-4:2020. Interference immunity is in accordance with EN 61000-6-2:2019.

⁸ Measured at a distance of 1 m from the front of the test chamber and a height of 1.6 m in free-field measurement according to EN ISO 11201:2010.

Usage of chambers for lithium-ion tests.

PRELIMINARY NOTES

Lithium-ion batteries (cells, modules, complete batteries) can burst and/or burn in the event of a fault. Bursting is connected with the escape of various gases (e.g. H₂, CO, CO₂, ...) from the cell. If a corresponding amount of flammable gases is emitted, there is a fire or explosion hazard. If applicable, it must be proceeded according to the ATEX guideline. A fault should be identified and possible consequences or dangers should be prevented. Independent of the customer's supervision of each individual cell (e.g. voltage supervision, current supervision, pressure supervision and temperature supervision) measures at the test cabinet must be taken.

In case of a low release rate a gas measurement, e.g. LEL control and/or fire alarm and extinguishing installation, can be provided. In case of high release rates where the LEL is reached very quickly, a permanent inertisation of the test space e.g. with N₂ is necessary.

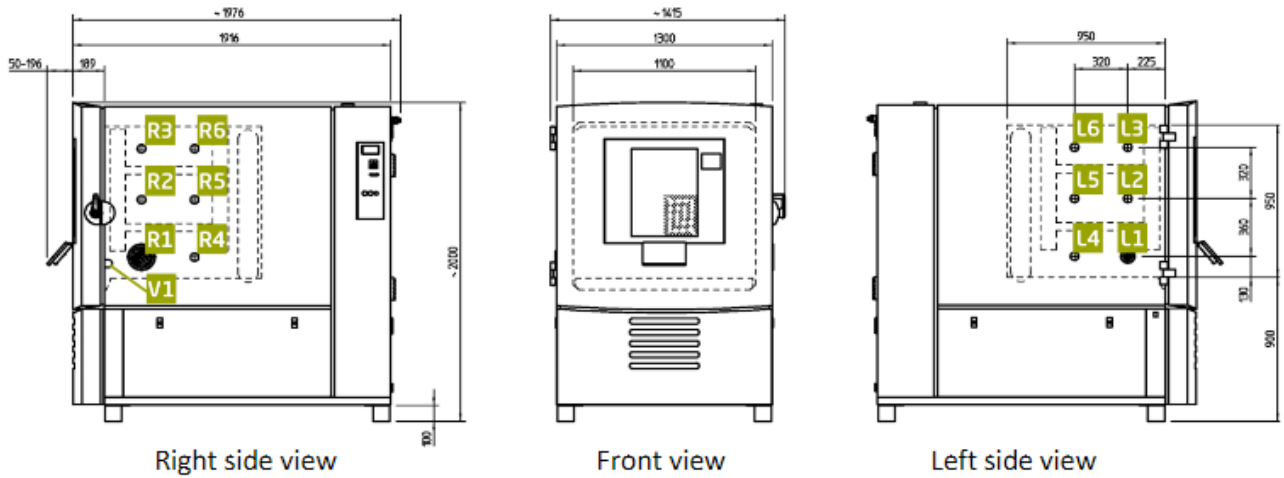
Depending on the amount and rate of emitted gas an undesirable pressure increase in the test chamber may occur. In these cases, an overpressure discharge system via a burst opening has to be provided additionally.

The measures to be taken and the safety equipment to be used need to be clarified and agreed for each application individually.

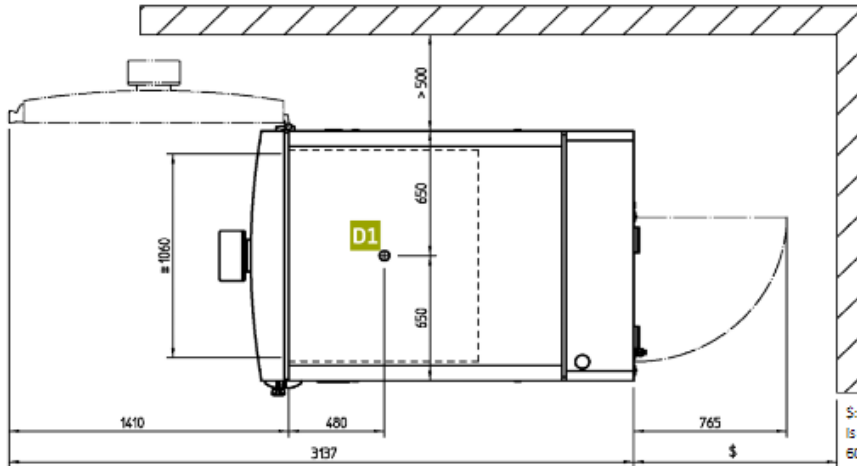
EUCAR HAZARD-LEVELS

EUCAR Hazard Level	Description	Classification Criteria & Effect
0	No effect	No effect. No loss of functionality:
1	Passive protection activated	No defect; no leakage; no venting, fire or flame; no rupture; no explosion; no exothermic reaction or thermal runaway. Cell reversibly damaged. Repair of protection device needed.
2	Defect / Damage	No leakage; no venting, fire or flame; no rupture; no explosion; no exothermic reaction or thermal runaway. Cell irreversibly damaged. Repair needed.
3	Leakage Δ mass < 50 %	No venting, fire or flame*; no rupture; no explosion. Weight loss < 50 % of electrolyte weight (electrolyte = solvent + salt).
4	Venting Δ mass \geq 50 %	No fire or flame*; no rupture; no explosion. Weight loss \geq 50 % of electrolyte weight (electrolyte = solvent + salt).
5	Fire or Flame	No rupture; no explosion (i.e., no flying parts).
6	Rupture	No explosion, but flying parts of the active mass.
7	Explosion	Explosion (i.e., disintegration of the cell).

* The presence of flame requires the presence of an ignition source in combination with fuel and oxidizer in concentrations that will support combustion. A fire or flame will not be observed if any of these elements are absent. For this reason, we recommend that a spark source be used during tests that are likely to result in venting of cell(s). We believe that "credible abuse environments" would likely include a spark source. Thus, if a spark source were added to the test configuration and the gas or liquid expelled from the cell was flammable, the test sample would quickly progress from EUCAR Hazard Level 3 or 4 to EUCAR Hazard Level 5.



Mobile design (option)



View from above

S: Min 200 mm, a wall distance of min. 700 mm is required for service work; according to IEC 60364-729 (VDE 100 part 729).

ACCESS PORTS

R1

Access port on the right side, \varnothing 125 mm

L1

Access port on the left side, \varnothing 50 mm

R2 R3 R4 R5 R6

Additional installation positions, right¹

L2 L3 L4 L5 L6

Additional installation positions, left¹

D1

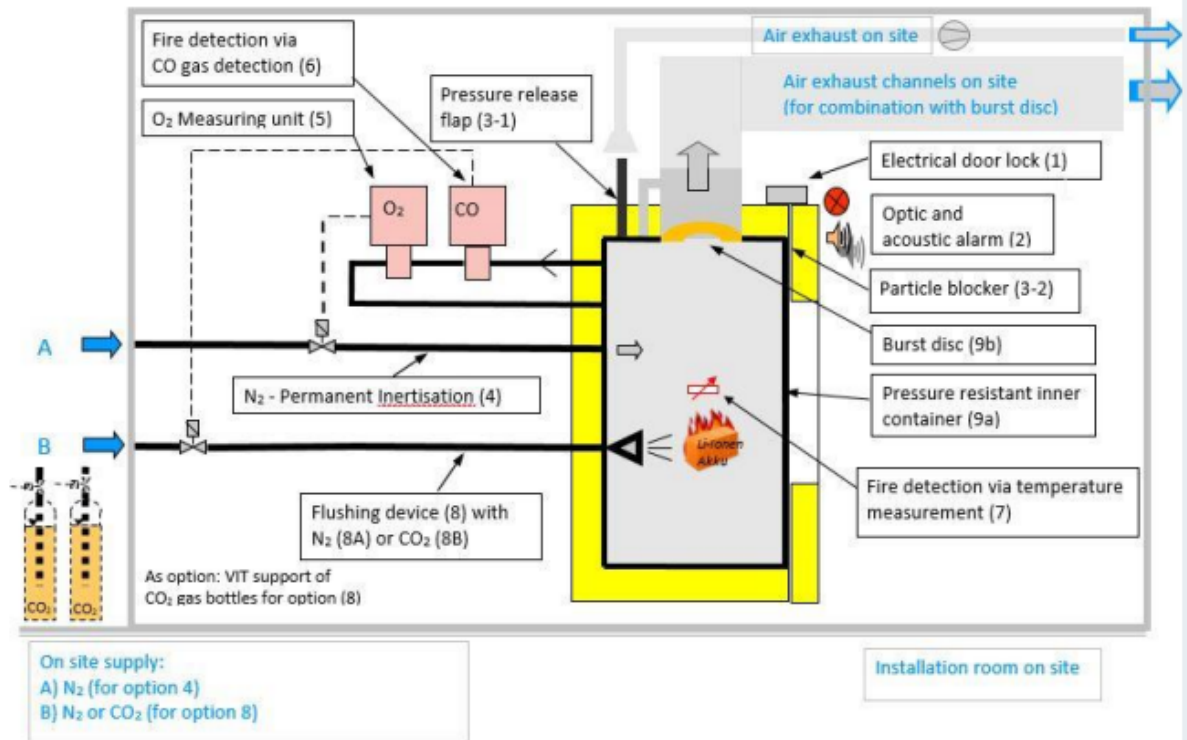
Additional installation position, in the ceiling¹

V1

Notch port or flat notch port

¹ available as additional equipment

SCHEME OF VARIOUS SAFETY EQUIPMENT FOR LITHIUM-ION TESTING



Safety equipment

- (1) safety interlock switch
- (2) optic and acoustic alarm
- (3-1) pressure release flap
- (3-2) particle blocker door
- (4) N₂ purging unit (permanent inerting unit)
- (5) O₂ measuring unit (additional option for (4))
- (6) Fire detection system using a CO gas detection sensor
- (7) Fire detection via temperature measurement (alternative to (6))
- (8) Purging device using in case of fire
 (8A) N₂ purging or (8B) CO₂ purging
- (9) Overpressure release via burst disc incl. pressure resistant inner container

Remarks

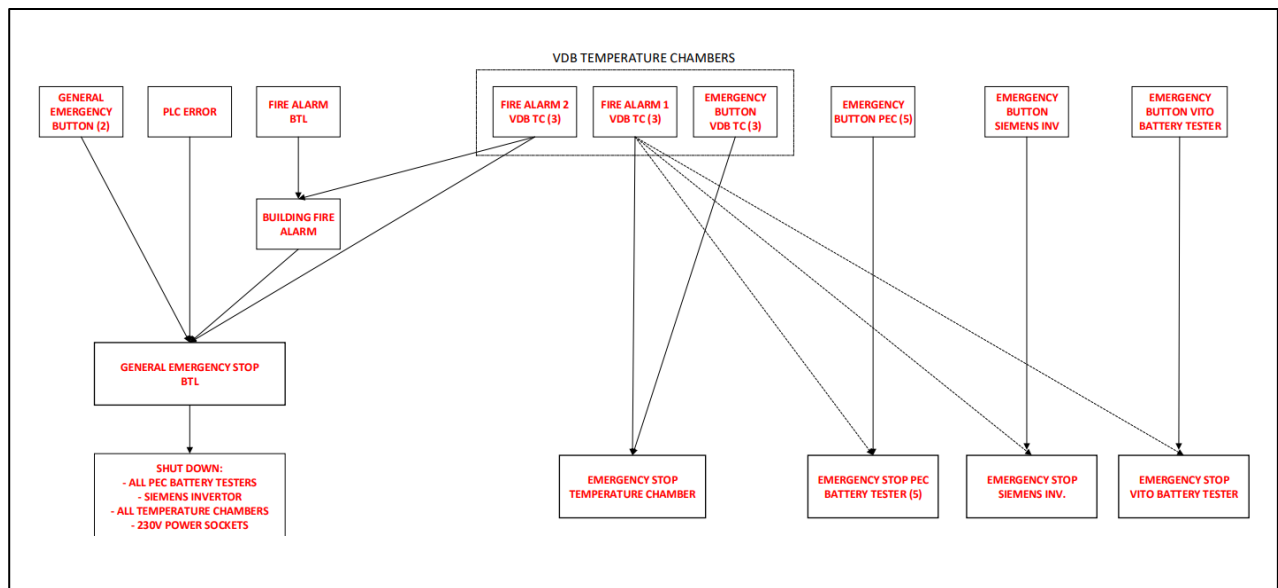
Installation Room on site: the test unit(s) should be installed in a separate installation room which can be closed and locked. Access to the room during testing must not be allowed.

All listed safety devices are designed and provided for human safety.
 In spite of every safety equipment a damaging of the test cabinet could occur in the worst case.

We reserve the right to make any technical changes without prior notice.

<p>Fire detection via temperature measurement</p>	<p>Fire detection via independent, movable temperature sensor Pt 100.</p>	<p>12720</p>
<p>Configured for lithium ion applications</p>	<p><u>Description</u> The Pt 100 temperature sensor is used to measure or detect a temperature increase in the test chamber, caused by a fire in the test chamber.</p> <p><u>Factory settings</u> Pre-alarm +90 °C Main alarm +120 °C Pre-alarm activates forced cooling of the test space temperature to +20 °C (value can be set).</p> <p>Two potential-free contacts for pre-alarm and main alarm are connected to sockets or terminals and made available at the test chamber.</p> <p>The contact of pre-alarm is designed in accordance with EN 13849-1 in P1a and that of the main alarm in PLC.</p> <p><u>Scope of delivery (lithium-ion configuration)</u> - Temperature sensor Pt 100 - Analogue measured value card</p>	

5.2.6 Emergency stop logic diagram (PLC)



Scope of Professional Services

5.2.7 Project Principal

- The Project Principal is the Professional Service Provider appointed to manage and administer the services of all consultants on a multi-disciplinary project.
- The CSIR will provide an oversight role during Stages 1 to 6 based on the stages of work described in the South African Council for the Architectural Profession Board Notice (Government Gazette No. 43591, 7 August 2020).
- The service provider is required to provide full architectural and engineering services for a medium complexity building for work stage 1 to 6 as described in the ECSA Standard Scope of Services summarised below:

5.2.7.1 Stage 1, Inception

Provide services in accordance with the ECSA Standard Scope of Services to establish client requirements and preferences, assess user needs and options, appointment of necessary sub-consultants, establish the project brief including project objectives, priorities, constraints, assumptions aspirations and strategies

Stage 1 - Deliverables include:

- a) agreed and signed detailed scope of services and scope of work
- b) report on project, site, and functional requirements
- c) schedule of required surveys, tests, analyses, and other investigations
- d) schedule of consents and approvals and related timeframes
- e) options analysis report

5.2.7.2 Stage 2, Preliminary Design

Provide services in accordance with the ECSA Standard Scope of Services to prepare and finalise the project concept in accordance with the brief, including project scope, scale, character, form and function, plus preliminary programme, and viability of the project.

Stage 2 - Deliverables include:

- a) process preliminary design and report (for systems related to the operational process)
 - i. concept people, material and equipment flow

- ii. equipment schedule including space requirements, utilities consumption, contingency plans
- b) required surveys tests and other investigations and related reports for systems related to the facility

5.2.7.3 Stage 3, Detailed Design

Provide services in accordance with the ECSA Standard Scope of Services to develop the approved concept to finalise the design, outline specifications, cost plan, financial viability, and programme for the project.

Stage 3 - Deliverables include:

- a) People and material flow diagrams
- b) engineering and architectural design development drawings including equipment layout and related utility coordination
- c) risk mitigation plan and report
- d) wiring, piping, equipment, and instrumentation schedules
- e) submission and approval of drawings and reports to local and other authorities (OHS, fire, emissions, hazardous material storage, pressure vessels etc.)
- f) detailed construction costs. (Activity Schedule, Annexure B)
- g) draft operation and maintenance manuals

5.2.7.4 Stage 4: Documentation and Procurement

Provide services in accordance with the ECSA Standard Scope of Services to prepare procurement and construction documentation, confirm and implement the procurement strategies and procedures for effective and timeous procurement of necessary resources for execution of the project

Stage 4 - Deliverables include:

- a) specifications
- b) services co-ordination
- c) working drawings
- d) budget construction cost
- e) construction plans and documentation

- f) procurement and delivery of construction materials and services

5.2.7.5 Stage 5: Construction and Contract Administration

Provide services in accordance with the ECSA Standard Scope of Services to manage, administer and monitor the construction and processes including preparation and coordination of procedures and documentation to facilitate practical completion of the works.

Stage 5 - Deliverables include:

- a) schedules of predicted cash flow
- b) construction and related documentation
- c) site establishment and OHS compliance activities
- d) drawing register
- e) costing and programming of variations
- f) contract instructions
- g) financial control reports
- h) valuations for payment certificates
- i) progressive and draft final accounts
- j) practical completion and defects list
- k) draft operation and maintenance manuals
- l) setting to work
- m) test and balance

5.2.7.6 Stage 6: Close Out

Provide services in accordance with the ECSA Standard Scope of Services to facilitate effective completion, handover, and operation of the project

Stage 6 - Deliverables include:

- a) valuations for payment certificates
- b) works and final completion lists
- c) test and balance reports
- d) final operations and maintenance manuals
- e) training

- f) all statutory certification and certificates of compliance as required by the local and other statutory authorities
- g) guarantees and warranties
- h) as-built drawings and documentation
- i) final accounts
- j) handover

Site inspections: The works shall be inspected on a regular basis (at least weekly) during the construction period

5.2.8 Engineering Services and Systems

- a) Stages 1 to 6 of Normal Services for Electrical, Mechanical, Structural and Civil Engineering in terms of the. Scope of Services and Tariff of Fees for Persons Registered in terms of the Engineering Profession Act, 46 of 2000 (Government Gazette No. 44333, 26 March 2021) are to be provided.
- b) Services will include the preparing and setting out of particulars as required by any relevant authority
- c) Engineering solutions selected shall be according to best practice for highest energy efficiency, and lowest life cycle and maintenance costs.
- d) Engineering systems shall include appropriate dust and vapor management systems and monitoring of safety critical environmental systems.

5.3 Proposed Project Program

Stage	Activity / Milestone	Start	End	Cashflow %
Stage 1	Project Initiation	11 July 2022	15 July 2022	
Stage 2 & 3	Design Development	15 July 2022	05 August 2022	
Stage 4 & 5	Procurement and Construction	05 August 2022	30 Sept. 2022	
Stage 6	Closeout	03 October 2022	07 October 2022	

6 FUNCTIONAL EVALUATION CRITERIA

6.1 The evaluation of the functional / technical detail of the proposal will be based on the following criteria:

#	Evaluation criteria	Criteria Description	Weighted score
1	Company Experience	<ul style="list-style-type: none"> Completed laboratory for the handling of hazardous materials or high current equipment within between 2011 and 2021 	30
		<ul style="list-style-type: none"> Contactable Client/Developers/Principal Agent reference letters signed on a letterhead, between 2011 and 2021 	15
		<ul style="list-style-type: none"> Completion certificate on the projects completed between 2011 and 2021 	10
2	Quality and Risk Management	<ul style="list-style-type: none"> Standards and Quality System 	5
3	Technical capability and capacity	<ul style="list-style-type: none"> CV of the Lead Professional Registered Engineer 	15
		<ul style="list-style-type: none"> Organogram of the proposed team Organogram must be supported by CVs and copies of qualifications of the proposed team 	5
		<ul style="list-style-type: none"> CV of the Lead Architect 	5
4	Methodology and Approach	<ul style="list-style-type: none"> Provide detailed project specific methodology approach detailing, but not limited to the following aspects of the construction of the new proposed 250m² facility Understanding of the scope of services 	15
TOTAL			100

6.2 Proposals with functionality / technical points of less than the pre-determined minimum overall percentage of 70% and sub section of 50% will be eliminated from further evaluation.

6.3 Refer to Annexure E for the scoring sheet that will be used to evaluate functionality.

7 ELIMINATION CRITERIA

Proposals will be eliminated under the following conditions:

The following objective criteria will result in disqualification

- Submission after the deadline
- Proposals submitted at the incorrect e-mail address
- Proposals submitted using cloud platforms, i.e., we-transfer, google drive, drop box.
- Failure to attend the compulsory briefing session / site inspection
- Failure to submit a valid and active CIDB grade 3GB or higher certificate
- Failure to submit a valid letter of good standing relevant to the scope of work from the Department of Labour (COIDA)
- Failure to submit valid proof of public liability cover or letter of intent of a minimum of R Three Million Rand (R3 000 000.00)
- Failure to submit Lead Professional Engineer professional registration certificate
- Failure to submit Lead Architect on registration certificate
- If the bidder is restricted on National Treasury

8 NATIONAL TREASURY CENTRAL SUPPLIER DATABASE REGISTRATION

Before any negotiations will start with the winning bidder it will be required from the winning bidder to:

- be registered on National Treasury's Central Supplier Database (CSD). Registrations can be completed online at: www.csd.gov.za;
- provide the CSIR of their CSD registration number; and
- provide the CSIR with a certified copy of their B-BBEE certificate. If no certificate can be provided, no points will be scored during the evaluation process. (RSA suppliers only).

SECTION B – TERMS AND CONDITIONS

9 PROCEDURE FOR SUBMISSION OF PROPOSALS

- 9.1 All proposals must be submitted electronically to tender@csir.co.za
- 9.2 Respondents must use the RFP number as the subject reference number when submitting their bids.
- 9.3 The e-mail and file sizes should not exceed a total of 25MB per e-mail.
- 9.4 The naming/labeling syntax of files or documents must be short and simple
- 9.5 All documents submitted electronically via e-mail must be clear and visible.
- 9.6 All proposals, documents, and late submissions after the due date and time will not be evaluated.

NB: NO HARD COPIES OR PHYSICAL SUBMISSIONS WILL BE ACCEPTED

10 TENDER PROGRAMME

The tender program, as currently envisaged, incorporates the following key dates:

- Issue of tender documents: Wed. 01 June 2022
- Compulsory briefing session / site inspection: Wed. 08 June 2022
- Last date for submission of queries: Mon. 13 June 2022
- Closing / submission date: Thur. 23 June 2022

11 SUBMISSION OF PROPOSALS

- 11.1 All proposals are to be submitted electronically to tender@csir.co.za. No late proposals will be accepted.
- 11.2 Responses submitted by companies must be signed by a person or persons duly authorised.
- 11.3 All e-mailed proposal submissions are to be clearly subject referenced with the RFP number. Proposals must consist of two parts, each of which must be sent in two separate e-mails with the following subject:

PART 1: Technical Proposal RFP No.: 3519/23/06/2022

PART 2: Pricing Proposal RFP No.: 3519/23/06/2022

11.4 The CSIR will award the contract to qualified tenderer(s) whose proposal is determined to be the most advantageous to the CSIR, taking into consideration the technical (functional) solution, price, and B-BBEE.

11.5 Proposals submitted must be in the following file formats:

- PDF

12 DEADLINE FOR SUBMISSION

Proposals shall be submitted at the address mentioned above no later than the closing date of **Thursday, 23 June 2022 at 16H30.**

Where a proposal is not received by the CSIR by the due date and stipulated place, it will be regarded as a late tender. Late tenders will not be considered.

13 AWARDING OF TENDERS

Awarding of tenders will be published on the National Treasury e-tender portal or the CSIR's tender website. No regret letters will be sent out.

14 EVALUATION PROCESS

14.1 Evaluation of proposals

All proposals will be evaluated by an evaluation team for functionality, price and B-BBEE. Based on the results of the evaluation process and upon successful negotiations, the CSIR will approve the awarding of the contract to successful bidders.

A two-phase evaluation process will be followed.

- The first phase includes evaluation of **elimination** and **functionality criteria**.
- The second phase includes the evaluation of **price** and **B-BBEE** status.

Pricing Proposals will only be considered after functionality phase has been adjudicated and accepted. Only proposals that achieved the specified minimum qualification scores for functionality will be evaluated further using the preference points system.

14.2 Preference points system

The 80/20 preference point system will be used where 80 points will be dedicated to price and 20 points to B-BBEE status.

15 PRICING PROPOSAL

- 15.1 The Pricing Proposal must be cross-referenced to the sections in the Technical Proposal. Any options offered must be clearly labelled. Separate pricing must be provided for each option offered to ensure that pricing comparisons are clear and unambiguous.
- 15.2 The price needs to be provided in South African Rand (excl. VAT). Note that this is a fixed price contract and not subject to escalation.
- 15.3 Only firm prices* will be accepted during the tender validity period. Non-firm prices** (including prices subject to rates of exchange variations) will not be considered.
- 15.4 *Firm price is the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax which, in terms of a law or regulation is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;
- 15.5 **Non-firm price is all prices other than “firm” prices.
- 15.6 Payment will be according to the CSIR Payment Terms and Conditions.

16 VALIDITY PERIOD OF PROPOSAL

- 16.1 Each proposal shall be valid for a minimum period of four (4) months calculated from the RFP closing date.

17 APPOINTMENT OF SERVICE PROVIDER

- 17.1 The contract will be awarded to the bidder who scores the highest total number of points during the evaluation process, except where the law permits otherwise.
- 17.2 Appointment as a successful service provider shall be subject to the parties agreeing to mutually acceptable contractual terms and conditions. In the event of the parties failing to reach such agreement, CSIR reserves the right to appoint an alternative supplier.

18 ENQUIRIES AND CONTACT WITH THE CSIR

Any enquiry regarding this RFP shall be submitted in writing to CSIR at tender@csir.co.za with ***“RFP No: 3519/23/06/2022 – Request for Proposals for the Design, Engineering, Procurement, and Construction of the Energy Storage Test Bed facility at the CSIR Scientia Site, Pretoria”*** as the subject.

Any other contact with CSIR personnel involved in this tender is not permitted during the RFP

process other than as required through existing service arrangements or as requested by the CSIR as part of the RFP process.

19 MEDIUM OF COMMUNICATION

All documentation submitted in response to this RFP must be in English.

20 COST OF PROPOSAL

Bidders are expected to fully acquaint themselves with the conditions, requirements and specifications of this RFP before submitting proposals. Each bidder assumes all risks for resource commitment and expenses, direct or indirect, of proposal preparation and participation throughout the RFP process. The CSIR is not responsible directly or indirectly for any costs incurred by bidders.

21 CORRECTNESS OF RESPONSES

21.1 The bidder must confirm satisfaction regarding the correctness and validity of their proposal and that all prices and rates quoted cover all the work/items specified in the RFP. The prices and rates quoted must cover all obligations under any resulting contract.

21.2 The bidder accepts that any mistakes regarding prices and calculations will be at their own risk.

22 VERIFICATION OF DOCUMENTS

22.1 Tenderers should check the numbers of the pages to satisfy themselves that none are missing or duplicated. The CSIR will accept no liability concerning anything arising from the fact that pages are missing or duplicated.

22.2 Only one electronic copy of the proposal (Technical and Financial) must be submitted via e-mail to tender@csir.co.za. If the bidder sends more than one proposal, the first submission shall take precedence should it not have been recalled/withdrawn in writing by the bidder. Pricing schedule and B-BBEE credentials should be submitted with the proposal, but as a separate e-mail and no such information should be available in the technical proposal.

23 SUB-CONTRACTING

23.1 A bidder will not be awarded points for B-BBEE status level if it is indicated in the tender documents that such a bidder intends sub-contracting more than 25% of the value of the

contract to any other enterprise that does not qualify for at least the points that such a bidder qualifies for, unless the intended sub-contractor is an exempted micro enterprise that has the capability and ability to execute the sub-contract.

23.2 A bidder awarded a contract may not sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an exempted micro enterprise that has the capability and ability to execute the sub-contract.

24 ADDITIONAL TERMS AND CONDITIONS

24.1 A bidder shall not assume that information and/or documents supplied to CSIR, at any time prior to this request, are still available to CSIR, and shall consequently not make any reference to such information document in its response to this request.

24.2 Copies of any affiliations, memberships and/or accreditations that support your submission must be included in the tender.

24.3 In case of proposal from a joint venture, the following must be submitted together with the proposal:

- Joint venture Agreement including split of work signed by both parties;
- The original or certified copy of the B-BBEE certificate of the joint venture;
- The Tax Clearance Certificate of each joint venture member;
- Proof of ownership/shareholder certificates/copies; and
- Company registration certificates

24.4 An omission to disclose material information, a factual inaccuracy, and/or a misrepresentation of fact may result in the disqualification of a tender, or cancellation of any subsequent contract.

24.5 Failure to comply with any of the terms and conditions as set out in this document will invalidate the Proposal.

24.6 SANS 1200 will be referred to for any assessment of contractor's claims.

25 CSIR RESERVES THE RIGHT TO

- 25.1 Not to appoint the lowest tenderer;
- 25.2 Extend the closing date;
- 25.3 Verify any information contained in a proposal;
- 25.4 Request documentary proof regarding any tendering issue;
- 25.5 Give preference to locally manufactured goods;
- 25.6 Appoint one or more service providers, separately or jointly (whether or not they submitted a joint proposal);
- 25.7 Award this RFP as a whole or in part;
- 25.8 Cancel or withdraw this RFP as a whole or in part.

26 BRIEFING SESSION LOGISTICS

Please take note of the following Safety Protocols to follow when visiting the CSIR site for the briefing session/site inspection:

a. Prior to site visit

- i) Only a maximum of two delegates from each company/bidder will be allowed on site.
- ii) All bidders/contractors must prior to visiting the CSIR site complete the online COVID-19 symptom screening questionnaire via the following link - <https://screen.csir.co.za/>
- All bidders attending the compulsory briefing session must prior to the visit watch the CSIR Safety and Health video via the following link - <http://streaming.csir.co.za/View.aspx?id=9264~4v~6hmMEM7b> (Please view this video prior to visiting any of the CSIR sites).
- All bidders must watch the COVID-19 Visitors induction video <https://www.youtube.com/watch?v=XD4NDvtO8ck> (Please view this video prior to visiting any of the CSIR sites).
- Any special requests for Personal Protective Equipment relating to the area to be inspected must be stated upfront

b. Entrance to a CSIR site

- i) All bidders/delegates must wear a cloth face mask on entrance and at all times during the site inspection
- ii) The Covid-19 self-screening questionnaire must be completed on the morning of entry to the site and a screenshot of the result must be shown to Security.

- iii) All delegates will subject to temperature screening at the gates using a non-contact temperature scanner and any person with a temperature of 38 C and above will not be allowed entry
- c. Conduct during site visit**
 - i) All Covid-19 precautionary measures as explained in the videos and induction must be obeyed
 - ii) Masks must be worn for the duration of the visit
 - iii) Hand-sanitizer will be made available at the entry points to buildings and at the meeting venue
 - iv) No pens, paper or other stationary will be distributed. Bidders need to bring their own pens, notepads, etc. to avoid sharing or passing of items
 - v) Social distancing of at least 2m must be maintained at all times
 - vi) Where items for inspection need to handled, sanitizer must be used by the delegate prior to and after handling/touching the item
 - vii) Depending on the available space at the inspection site, the number of delegates allowed at a specific may be limited to allow for social distancing
 - viii) No refreshments will be served during the site inspection
 - ix) Should a delegate not feel well during an inspection they need to immediately alert the host and the Medical Assistance will be contacted for assistance

27 DISCLAIMER

This RFP is a request for proposals only and not an offer document. Answers to this RFP must not be construed as acceptance of an offer or imply the existence of a contract between the parties. By submission of its proposal, bidders shall be deemed to have satisfied themselves with and to have accepted all Terms & Conditions of this RFP. The CSIR makes no representation, warranty, assurance, guarantee or endorsements to bidder concerning the RFP, whether with regard to its accuracy, completeness or otherwise and the CSIR shall have no liability towards the bidder or any other party in connection therewith.

28 RETURNABLE DOCUMENTS

NOTE: The bidder is required to complete each and every schedule listed below to the best of his ability as the evaluation of tenders and the eventual contract will be based on the information provided by the bidder. Failure of a bidder to complete the schedules and forms to the satisfaction of the CSIR will inevitably prejudice the tender and may lead to rejection on the grounds that the tender is not responsive.

The bidder must complete and or submit the following returnable documents:

RETURNABLE DOCUMENTS			
PART A: TECHNICAL RETURNABLES			
Returnable Schedules required only for Tender Evaluation Purposes.			
Description		Submitted (please tick)	
		Yes	No
1.	Completed projects, Annexure A		
2	Contactable reference letters		
3	Completion certificates		
4	CV of Lead Engineer		
5	ECSA registration certificate		
6	Organogram of proposed project team		
7	CVs of project team		
8	Qualification copies of project team		
9	CV of Lead Architect		
10	SACAP registration certificate		
11	Quality and risk management accreditations		
12	Project methodology		
13	COIDA		
14	Public liability cover		
15	CIDB registration		
16	Bidder' Declaration Form, Annexure D		
PART B: PRICING PROPOSAL			
Returnable Schedules that will be incorporated into the Contract.			
17	Cover letter		
18	Activity schedule, Annexure B		
19	Proposed cost / commercial offer		
20	Valid B-BBEE certificate or sworn affidavit		
21	CSD registration report		

29 ANNEXURE A - SCHEDULE OF THE BIDDER'S EXPERIENCE

The bidder must list relevant projects completed since 2011.

Duplications of this schedule may be completed and attached to this document.

Company Name	Contact Person	Telephone Number / E-mail Address	Scope Of Work (Including area size)	Value of Work (Inclusive of Vat)	Date Completed

30 ANNEXURE B - ACTIVITY SCHEDULE

The bidder is required to complete this activity schedule in full.

Item No	Component	Description (Deliverables)	Component Price (ZAR)
1	Stage 1: Inception	a) agreed and signed detailed scope of services and scope of work b) report on project, site, and functional requirements c) schedule of required surveys, tests, analyses, and other investigations d) schedule of consents and approvals and related timeframes e) options analysis report	
2	Stage 2, Preliminary Design	a) process preliminary design and report (for systems related to the operational process) b) required surveys tests and other investigations and related reports for systems related to the facility	
3	Stage 3, Detailed Design	a) People and material flow diagrams b) engineering and architectural design development drawings including equipment layout and related utility coordination c) risk mitigation plan and report d) wiring, piping, equipment, and instrumentation schedules e) submission and approval of drawings and reports to local and other authorities (OHS, fire, emissions, hazardous material storage, pressure vessels etc.) f) detailed construction costs. (Costed BOD and activity Schedule) g) draft operation and maintenance manuals	

Item No	Component	Description (Deliverables)	Component Price (ZAR)
4	Stage 4: Documentation and Procurement	a) specifications b) services co-ordination c) working drawings d) budget construction cost (Priced BOQ for Stage 5a) e) construction plans and documentation f) procurement and delivery of construction materials and services	
5.1	Stage 5: Construction Works	a) construction works including: i) Architectural, ii) Mechanical / Fire iii) Electrical iv) Electronic / Fire	
5.2	Stage 5: Construction Contract Administration	a) construction document control c) site establishment and OHS compliance activities d) drawing register e) costing and programming of variations f) contract instructions g) financial control reports h) valuations for payment certificates i) progressive and draft final accounts j) practical completion and defects list k) draft operation and maintenance manuals l) setting to work m) test and balance	
6	Stage 6: Close Out	a) valuations for payment certificates b) works and final completion lists c) test and balance reports d) final operations and maintenance manuals e) training	

Item No	Component	Description (Deliverables)	Component Price (ZAR)
		f) all statutory certification and certificates of compliance as required by the local and other statutory authorities g) guarantees and warranties h) as-built drawings and documentation i) final accounts j) handover	
Sub Total			
20% contingencies			
15% VAT			
Total			

31 ANNEXURE C - PRICING PROPOSAL FORM

THE BIDDER IS TO COMPLETE AND SIGN THE TENDER FORM

The Bidder, identified in the Offer signature block below, has examined the documents listed in the Tender Data as listed in the Tender Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the Bidder, deemed to be duly authorised, signing this part of this Form of Offer, the Bidder offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the Contract Data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS

.....
.....
..... Rand (in words); R (in figures),

This offer may be accepted by the CSIR by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Bidder before the end of the period of validity stated in the Tender Data, whereupon the Bidder becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

Signature(s)

Name(s)

Capacity

For the Bidder

Name and

signature of

witness

Date

32 ANNEXURE D - DECLARATION BY BIDDER

Only bidders who completed the declaration below will be considered for evaluation.

RFP No:

I hereby undertake to render services described in the attached tendering documents to CSIR in accordance with the requirements and task directives / proposal specifications stipulated in **RFP No.**..... at the price/s quoted. My offer/s remains binding upon me and open for acceptance by the CSIR during the validity period indicated and calculated from the closing date of the proposal.

I confirm that I am satisfied with regards to the correctness and validity of my proposal; that the price(s) and rate(s) quoted cover all the services specified in the proposal documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this proposal as the principal liable for the due fulfilment of this proposal.

I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other proposal.

I accept that the CSIR may take appropriate actions, deemed necessary, should there be a conflict of interest or if this declaration proves to be false.

I confirm that I am duly authorised to sign this proposal.

NAME (PRINT)
CAPACITY
SIGNATURE
NAME OF FIRM
DATE

WITNESSES	
1
2
DATE

33 ANNEXURE E – SCORING SHEET

No.	Criteria	Proof required	Points allocation	Weight	
1	Company Experience	<ul style="list-style-type: none"> Completed laboratory for the handling of hazardous materials or high current equipment since 2011 Completed projects with Construction Area of more than 250m² for each project 	No submission - 0 point ≤ 2 projects - 3 points 3– 5 projects - 5 points 6 – 7 projects - 7 points ≥8 projects - 10 points	30%	55%
		<ul style="list-style-type: none"> Contactable reference letters from clients/ developers / principal agent, for projects completed since 2011 	No submission - 0 point ≤ 2 reference letters - 3 points 3– 5 reference letters - 5 points 6 – 7 reference letters - 7 points ≥8 reference letters - 10 points	15%	
		<ul style="list-style-type: none"> Completion certificates for projects completed between 2011 and 2021 Completed projects with Construction Area of more than 250m² for each project 	No submission - 0 point ≤ 2 completion certificates - 3 points 3– 5 completion certificates - 5 points 6 – 7 completion certificates - 7 points ≥8 completion certificates - 10 points	10%	
2	Quality and Risk Management	<ul style="list-style-type: none"> Standards and quality systems 	No submission - 5 point Submission of <i>one of the</i> ISO SANS 14001 or 9001 - 7 points Submission of both ISO/SANS 14001 and 9001 - 10 points	5%	
3	Lead Professional Engineer	<ul style="list-style-type: none"> CV of Lead Professional Engineer showing number of years of experience 	No submission - 0 point ≤ 4 years' experience - 3 points 5– 6 years' experience - 5 points 7 – 8 years' experience - 7 points ≥9 years' experience - 10 points	15%	

		<ul style="list-style-type: none"> Organogram of proposed project team Organogram must include CVs and copies of qualifications of the project team 	No submission – 0 point Organogram submitted with no CVs – 3 points Organogram submitted with CVs only – 5 points No organogram submitted, only CVS – 7 points Organogram submitted with CVs and copies of qualifications – 10 points	5%																														
		<ul style="list-style-type: none"> CV of Lead Architect showing number of years of experience 	No submission - 0 point ≤ 4 years' experience – 3 points 5– 6 years' experience – 5 points 7 – 8 years' experience – 7 points ≥9 years' experience – 10 points	5%																														
4	Methodology and Approach	<ul style="list-style-type: none"> Provide detailed project specific methodology approach detailing, but not limited to the following aspects of the construction of the new proposed 250m² facility Understanding of the scope of services <p>Stages 1-6</p> <table border="1"> <thead> <tr> <th>Stage</th> <th>Activity / Milestone</th> <th>Start</th> <th>End</th> </tr> </thead> <tbody> <tr> <td>Stage 1</td> <td>Project Initiation</td> <td>11 July 2022</td> <td>15 July 2022</td> </tr> <tr> <td>Stage 2 & 3</td> <td>Design Development</td> <td>15 July 2022</td> <td>05 August 2022</td> </tr> <tr> <td>Stage 4 & 5</td> <td>Procurement and Construction</td> <td>05 August 2022</td> <td>30 Sept. 2022</td> </tr> <tr> <td>Stage 6</td> <td>Closeout</td> <td>03 October 2022</td> <td>07 October 2022</td> </tr> </tbody> </table>	Stage	Activity / Milestone	Start	End	Stage 1	Project Initiation	11 July 2022	15 July 2022	Stage 2 & 3	Design Development	15 July 2022	05 August 2022	Stage 4 & 5	Procurement and Construction	05 August 2022	30 Sept. 2022	Stage 6	Closeout	03 October 2022	07 October 2022	<table border="1"> <tr> <td>No submission</td> <td>0 point</td> </tr> <tr> <td>Ambiguous methodology approach determined (no proof provided, no design concepts or process provided).</td> <td>3 points</td> </tr> <tr> <td>Prepare and present a typical facility layout diagram</td> <td>5 points</td> </tr> <tr> <td>Generic Gantt Chart in MS Projects or similar software stating the design and construction services related steps, links and approach from Inception stage to close out stage stating the deliverables and milestones, key aspect of the laboratory construction, with no specific to the scope of work and the project</td> <td>7 points</td> </tr> <tr> <td>Specific Gantt Chart in MS Projects or similar software detailing the design and construction services relating to the client brief showing steps, time and approach from Inception to Close-Out stage stating the deliverables and milestones, key aspects specific to the laboratory construction</td> <td>10 points</td> </tr> </table>	No submission	0 point	Ambiguous methodology approach determined (no proof provided, no design concepts or process provided).	3 points	Prepare and present a typical facility layout diagram	5 points	Generic Gantt Chart in MS Projects or similar software stating the design and construction services related steps, links and approach from Inception stage to close out stage stating the deliverables and milestones, key aspect of the laboratory construction, with no specific to the scope of work and the project	7 points	Specific Gantt Chart in MS Projects or similar software detailing the design and construction services relating to the client brief showing steps, time and approach from Inception to Close-Out stage stating the deliverables and milestones, key aspects specific to the laboratory construction	10 points	15%
Stage	Activity / Milestone	Start	End																															
Stage 1	Project Initiation	11 July 2022	15 July 2022																															
Stage 2 & 3	Design Development	15 July 2022	05 August 2022																															
Stage 4 & 5	Procurement and Construction	05 August 2022	30 Sept. 2022																															
Stage 6	Closeout	03 October 2022	07 October 2022																															
No submission	0 point																																	
Ambiguous methodology approach determined (no proof provided, no design concepts or process provided).	3 points																																	
Prepare and present a typical facility layout diagram	5 points																																	
Generic Gantt Chart in MS Projects or similar software stating the design and construction services related steps, links and approach from Inception stage to close out stage stating the deliverables and milestones, key aspect of the laboratory construction, with no specific to the scope of work and the project	7 points																																	
Specific Gantt Chart in MS Projects or similar software detailing the design and construction services relating to the client brief showing steps, time and approach from Inception to Close-Out stage stating the deliverables and milestones, key aspects specific to the laboratory construction	10 points																																	
Total points				100%																														

34 ANNEXURE F – SBD 1 FORM

(The Completed SBD 1 form must be submitted with the quotation)