



Request for Quotation (RFQ) for the supply of electrical power generation systems to the CSIR.

RFQ No: 9373/11/03/2022

Date of issue	Friday , 25 February 2022
Closing Date and Time	Friday, 11 March 2022 at 16h30
For submission of quotations or any other enquiries:	tender@csir.co.za

1 INVITATION FOR QUOTATION

Quotations are hereby invited for the supply of two all-weather transportable Electrical Power Generation Systems (EPGS) consisting of two interlinked pairs, with a total of four (4) off 200/3 kVA 400V containerised generator sets with Automatic Mains Failure (AMF), with power distribution system consisting of two (2) all-weather Main Distribution Box (200/3 kVA. 400V), sixteen (16) off all-weather 2.3Sub-DB Box (3 Phase 50A to 60A), with tailing and power distribution cables in transportable secure container, to the CSIR Pretoria Campus, with operation and maintenance training at same site including operation and maintenance plan with spares and any special tools required to maintain or repair any of the equipment being supplied for a period of twenty-four (24) months. See Figure 1. The self-bunded double walled fuel tanks are excluded from this Tender

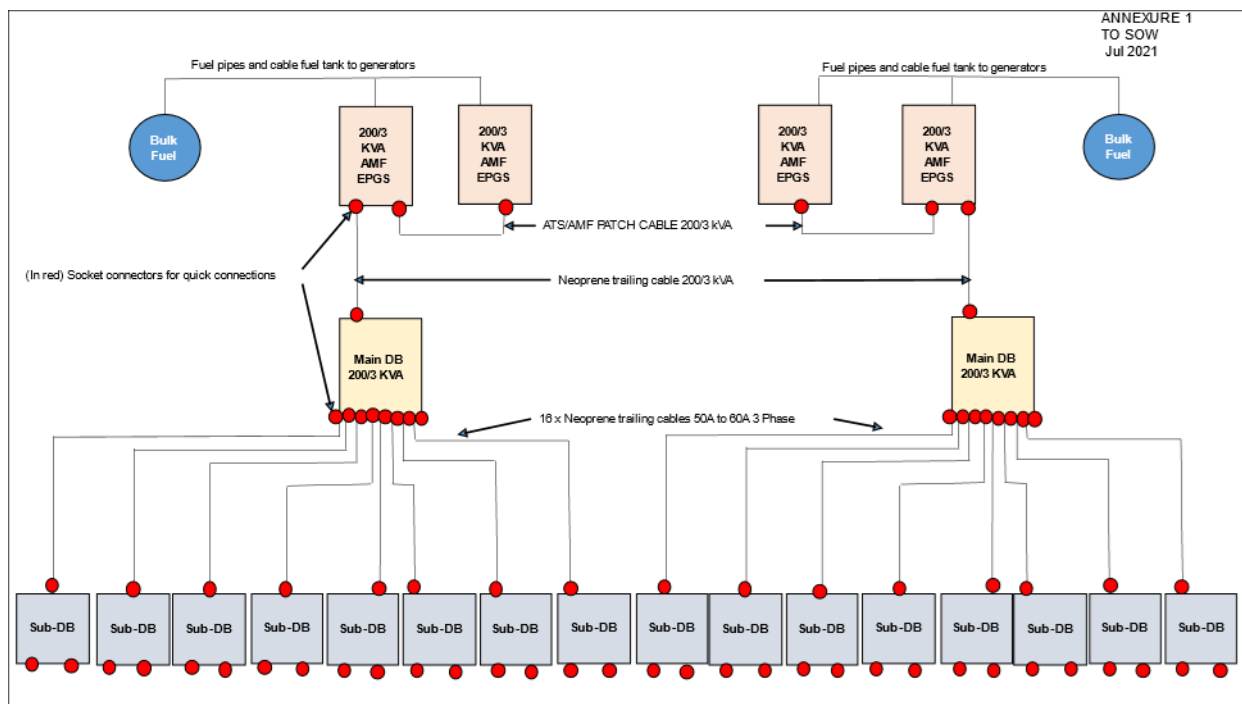


Figure 1: Full EPGS System Layout

2 QUOTATION REQUIREMENTS

Supply of two (2) Electrical Power Generation Systems (EPGS) with containerised deployable power distribution.

Description of goods, works/services:**1. Two off (2) linked and paired generator sets with trailing cables as shown in Figure 1 for a total of four off (4) containerised transportable all-weather 200/3 kVA AMF 400V generator sets that must comply with the following:**

- 1.1 Each all-weather EPGS system must consist of two linked (total 4 off), containerised and fully transportable generator sets with onboard fuel tanks and six (6) off 200/3 kVA 400V 25 m long neoprene trailing output cables with Prime Power application. Generator Output 200/3_kVA AMF. 400V with the following capability:
- 1.1.1 One (1) off 200/3 kVA, full load output capability to a main distribution box See Figure 1) must be by means of socket connections for quick connect and disconnect purposes.
 - 1.1.2 Line to line voltage range (380 VAC to 416 VAC), line to neutral voltage (230VAC to 240VAC).
 - 1.1.3 Additional socket outlets are permitted with a minimum of a service socket (RSA 3 pin plug socket) at the generator set itself (confirm if supplied and how many).
 - 1.1.4 Generator control system must be Commercial off the Shelf (COTS) electronic controller.
- 1.2 Generator sets must be ISO 8528 compliant.
- 1.3 Duty Cycle: Each generator set is to function for a continuous period of twelve (12) hours at full load or at an average load of ninety (90) percent as a minimum.
- 1.4 Containerized (self-enclosed) and sound attenuated with a minimum specification of seventy (70) dba at seven (7) meters (maximum overall dimensions of a standard 6m ISO container may not be exceeded).
- 1.5 Generators must function on military grade diesel fuel and include required filtration, water traps etc. as needed to meet technical specifications.
- 1.6 Generator engine speed one-thousand five hundred (1500) rpm.
- 1.7 Only Water cooled, turbo driven engine with a "Tier 4" emissions standard to meet green energy compliance in line with UN requirements will be considered. Lower "tier generator" set could be considered for shorter delivery lead times. This must be clearly indicated in the proposal.
- 1.8 KVA rating to be compensated for 1500 m above sea level.
- 1.9 Fuel tank onboard capacity to cater for twelve (12) hours operation at an average minimum load of ninety (90) percent capacity at 1500 m above sea level.

1.10	Each generator set must have a SANS compliant earth mat and four (4) earth spikes per generator.
1.11	Only OEM approved products sold, supported, and maintained in the RSA will be considered.
1.12	Road transportable on flatbed to be fixed with ISO locks (standard ISO container certification to be maintained including max permissible dimensions).
1.13	Must be able to be transported with a C130 airplane or MI26 helicopters (load 10 tons).
1.14	Standard safety warnings to be provided (SANS compliant).
1.15	Provision must be made for diesel/oil spillage prevention (generator construction with a built-in dip-pan for oil or fuel spillage).
1.16	Conformance to ISO (ISO 8528) standard must be visible on manufacturing plate placed on the outside of the EPGS.
1.17	Generator control system must be Commercial off the Shelf (COTS) electronic controller.
1.18	Automatic Mains Failure (AMF) with an automatic transfer of 200/3 kVA.
1.19	As these generators must be coupled (by means of socket connections) in pairs, the link cables (ATS-AMF full load transfer capability) must be provided for both sets of generator for a distance of at least ten (10) meters.
1.20	<p>EPGS containerised generator set neoprene Trailing Cables 200/3 kVA 400V Output Cables to First Main DB only:</p> <p>1.20.1 All cables must be neoprene trailing cables (4 core minimum).</p> <p>1.20.2 Main Cable: Twenty-five (25) meters, for the full load of the system (you can double up on cables for the full load capability required, however the connections must be by means of sockets).</p> <p>1.20.3 Quantity of six (6) cables (two (2) cables are spare).</p> <p>1.20.4 Line to line voltage range (380 VAC to 416 VAC), line to neutral voltage (230VAC to 240VAC).</p> <p>1.20.5 Each all-weather generator set (200/3 kVA) must have full load output capability to a main distribution box that must be by means of socket connections for quick connect and disconnect purposes.</p>

<p>1.20.6 Neoprene trailing cables to be utilized which needs to be recoverable. (South African National Standards (SANS) compliant.</p> <p>1.20.7 Reusable rollers to be used to support deployment and decommissioning / return transportation of cables</p>
1.21 To painted 2K white with Varcot Thanacryl Semi Matt UN White (700#0002) (outer housing).
2. Two (2) off Main DB Box (200/3 kVA. 400V) (See Figure 1) that must comply with
2.1 Quantity: Two (2) off.
<p>2.2 The main DB must have eight (8) socket outlets, protected by main circuit breakers (3 phase 50A to 60A).</p> <p>2.1.1 All cable mounted sockets must be provided with the DB box to make up the necessary cables as required by the client (see Appendix A).</p>
2.3 Must be SANS compliant.
2.4 Main cable (even if doubled up) must enter into a socket that is protected by a main breaker for the full load capability
2.5 Input 200/3 KVA
2.6 SANS compliant earth mat and earth spike to be provided per each DB box.
2.7 All DB's must have a foot piece that can allow the DB box to stand in a minimum of twenty (20) cm of water when it rains.
2.8 DB boxes can be either metal or fiberglass with lockable doors and rain proof.
2.9 To be painted 2K white Varcot Thanacryl Semi Matt UN White (700#0002)
3. Sixteen (16) off Sub-DB Box (3 Phase 50A to 60A) (See Figure 1) and training/ distribution cables to comply with
3.1 SANS compliant.
3.2 Quantity. Sixteen (16) off.
3.3 Input 50A to 60A 3 Phase
3.4 Main cable to the sub-DB must enter by means of a socket to a main circuit breaker (3 phase 50A to 60A).
3.5 This DB must have twelve (12) RSA 3 pin socket outlets minimum.

3.5.1 Each socket to be secured by a 15A single phase breaker.

3.5.2 Two main outlet sockets to be circuit breaker protected (3 phase 50A to 60A).

3.5.3 Take note that the 3 pin socket outlets must connect with cables that will not hinder the closing of the door once fully connected (bottom entries for the twelve (12) cables).

3.6 SANS compliant earth mat and earth spike to be provided per DB box.

3.7 All DB's must have a foot piece that can allow the DB box to stand in a minimum of twenty (20) cm of water when it rains.

3.8 DB boxes can be either metal or fiberglass with lockable doors and rain proof.

3.9 To be painted 2K white Varcol Thanacryl Semi Matt UN White (700#0002).

3.10 Neoprene Trailing Cable for Sub-DB Boxes (See Figure 1)

3.10.1 16 mm Square 4 core neoprene trailing cable for (60A minimum 400V three phase, SANS compliant).

3.10.2A length of 100 m each roll.

3.10.3Quantity: Sixteen (16) off rolls.

3.10.4SANS compliant socket/ plug on each end to fit main BD board output and sub-DB board input

3.10.5Reusable rollers to be used to support deployment and decommissioning / return transportation of cables

3.10.6Only SANS/SABS approved cables will be accepted.

3.11 Final power distribution (See Figure 1)

3.11.1 13 Core 2.5 mm Square PVC Insulated Cable Quantity: One-hundred and ninety-two (192) rolls.

3.11.2Reusable rollers to be used to support deployment and decommissioning / return transportation of cables

3.11.3Only SANS/SABS approved cables will be accepted.

3.11.4SANS compliant 3 pin socket and plug on each end

4. Provide a container (s) solution to safely ship / transport the power distribution system to the deployment area and provide secure storage for unused items as well as support recovery after deployment.

4.1	Confirm quantity of containers required and to be supplied.
4.2	Solution to ensure power distribution equipment / items (trailing cables, distributions cables), spares and special equipment / tooling is able to be safely stowed and secured in a fully certified container and is: 4.2.1 Road transportable with ISO locks 4.2.2 Must be able to be transported with a C130 airplane or M126 helicopters (load 10 tons).
4.3	To painted 2K white with Varcol Thanacryl Semi Matt UN White (700#0002)
5. The following spares must be provided according to supplier's specifications for a period of twenty-four (24) months:	
4.4	Twenty-four (24) month maintenance plan
4.5	Service kits
4.6	Service Materials Required
4.7	Any special tools required to maintain or repair any of the equipment being supplied.
4.8	Ten (10) percent pool of material/spares for main items such as: starter motors, alternators, injector's controllers, circuit breakers, DB box sockets and cable sockets etc must be tabled as part of a proposed maintenance plan in the offer. This should also include sundry items such as cable splicing kits and terminal lugs for connections to buss bars cable joints etc.
6. Skills Transfer at the CSIR Pretoria Campus that covers system training in line with the requirement for twenty-four (24) months continuous deployment including manuals, training notes, special tools, list of standard tools not supplied etc.	
6.1	Installation, assembly, operation and recovery (packaging) training according to suppliers specifications with required manuals, list of required tooling, special tooling, list if required spares, and line-replaceable units (see below) to ensure twenty-four months: 6.1.1 Installation, assembly training of complete system. 6.1.2 Operator training for ten (10) members. 6.1.3 Maintenance Training for Ten (10) Members 6.1.4 Preventative maintenance training for ten (10) members. 6.1.5 Operator corrective maintenance training for ten (10) members 6.1.6 System recovery and packaging training for ten (10) members

6.2 On conclusion of Installation, assembly, operation, and recovery (packaging) training according to suppliers specifications, the last part of the training will be the full system recovery and packaging for immediate transportation via land, sea, or air for immediate deployment.

7 Conformance demonstration, verification and Certificate of Conformance

7.1 Proof of conformance (system qualification) and operations is required prior to packaging and shipping.

7.1.1 Demonstration to verify conformance of system prior to packaging and delivery to CSIR Pretoria site to be held at supplier.

7.1.2 Demonstration to be planned and executed under Professional Engineer to verify all performance aspects

7.1.3 Certificate of Conformance to be signed off by registered, insured Professional Engineer

7.2 Packaging of all procured equipment and delivery to the CSIR Pretoria Campus and if to fly/ship to the deployment area prior to training.

Additional requirements:

- EPGS system with main and sub-DB boards and cables design to be approved by the CSIR and supplier appointed independent registered and insured professional engineer prior to manufacture.
- EPGS system with main and sub-DB boards and cables to be certified fully compliant and signed off by a registered and insured professional Engineer.
- The EPGS system with EPGS system with main and sub-DB boards and cables full performance to be demonstrated on-site at the supplier to verify system function as part of Professional Engineering certification and prior to packing and despatch to the CSIR Pretoria campus.
- Design and development of a secure and lockable containerised storage system for the Main and Sub-DB boards as well as all cabling, rolls, spares, specialised tooling etc. that are safely retained during transportation that support deployment and recovery / demobilisation of the systems.
- Packaging of all procured equipment and delivery to the CSIR Pretoria campus, in order to fly/ship to the deployment area. All required equipment and consumables are to be brought with by the bidder (see below).
- System delivery to the CSIR Pretoria campus within 8 weeks or better.
- A twenty-four (24) months warranty for the complete system and all supplied items and list exclusions if any.

3 EVALUATION CRITERIA

- 3.1 Selection of suppliers will be based on the 80/20 preference point system.
- 3.2 Send SANAS approved B-BBEE certificate or affidavit on DTIC template with quotation. No B-BBEE status will equal zero points.
- 3.3 Indicate CSD number (National Treasury Central Supplier Database) on quotation. If not registered yet on CSD, use www.csd.gov.za to register.
- 3.4 No order will be issued or no contract will be signed without a valid CSD number.

4 ELIMINATION CRITERIA

- 4.1 ISO 9001 or similar quality system certification.

- 4.2 Confirmation of the proposed IP rating for the system offered to ensure all weather capability.
- 4.3 Issuing of a Certificate of Conformance for all the work, systems and sub-systems supplied as signed off and verified by a supplier funded registered and insured professional engineer for certification of system including listing called up and / or standards complied with by the tender such as SANS and ISO 8528.
- 4.4 Full compliance to the technical requirements as listed in the scope of work, including:
- Design acceptance by the CSIR and registered professional engineer prior to construction / assembly.
 - At suppliers site system verification and certification by professional engineer prior to packaging and despatch to the CSIR Pretoria Campus.
 - On-site at the CSIR Pretoria Campus recovery and packing of EPGS system after training for despatch and final buy off and certification.
- 4.6 Confirmation of generator tier compliance or effect of lower tier on reduced delivery lead time for complete system, if applicable.
- 4.7 Twenty-four (24) month warranty and exclusions, if any.
- 4.8 Proof of OEM letter as the approved products reseller, distributor, supported and maintained in the RSA.
- 4.9 Submission after the deadline;
- 4.10 Submission at wrong location, submit to tender@csir.co.za;
- 4.11 Suppliers on National Treasury list of restricted suppliers list.

5 PRICING QUOTATION

- 5.1 Price needs to be provided in South African Rand (excl. VAT), with details on price elements that are subject to escalation and exchange rate fluctuations clearly indicated.
- 5.2 Price should include additional cost elements such as freight, insurance until acceptance, duty where applicable, etc.
- 5.3 Payment will be according to the CSIR Payment Terms and Conditions.

6 SPECIAL CONDITIONS

The CSIR reserves the right:

- 6.1 To extend the closing date of the RFQ;
- 6.2 To request documentary proof regarding any tendering issue;
- 6.3 To negotiate with one or more bidder(s) identified in the evaluation process who scored highest point on preferential point system, regarding any terms and conditions, including price without offering the same opportunity to any other bidder(s) who has not been awarded the status of the preferred bidder(s);
- 6.4 To carry out site inspections, product evaluations or explanatory meetings in order to verify the nature and quality of the services offered by the bidder(s) or to verify any information contained in a proposal, whether before or after adjudication of the RFQ;
- 6.5 To correct any mistakes at any stage of the tender that may have been in the RFQ documents or occurred at any stage of the tender process;
- 6.6 To cancel and/or terminate the tender process at any stage, including after the Closing Date and/or after presentations have been made, and/or after tenders have been evaluated and/or after the preferred bidder(s) have been notified of their status as such;
- 6.7 To accept part of a tender rather than the whole RFQ;
- 6.8 Award to multiple bidders who scored highest point on preferential point system, based on either size or geographic considerations (whether or not they submitted a joint proposal).

7 OTHER TERMS AND CONDITIONS

- 7.1 The supplier shall under no circumstances offer, promise or make any gift, payment, loan, reward, inducement, benefit or other advantage, which may be construed as being made to solicit any favour, to any CSIR employee or its representatives. Such an act shall constitute a material breach of the Agreement and the CSIR shall be entitled to terminate the Agreement forthwith, without prejudice to any of its rights.
- 7.2 A validity period of 90 days will apply to all quotations except where indicated differently on the quote.

8 No goods and/or services should be delivered to the CSIR without an official CSIR Purchase order. CSIR purchase order number must be quoted on the invoice. Invoices without CSIR purchase order numbers will be returned to supplier.

9 Note: This is not a Purchase Order.

DECLARATION BY TENDERER

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

RFQ No: 9373/11/03/2022

I hereby undertake to render services described in the attached tendering documents to CSIR in accordance with the requirements and task directives / quotation specifications stipulated in RFQ 9373/11/03/2022 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 quotation.

I confirm that I am satisfied with regards to the correctness and validity of my quotation; that the price(s) and rate(s) quoted cover all the services specified in the quotation 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 quotation as the principal liable for the due fulfilment of this quotation.

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

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 quotation.

NAME (PRINT)

CAPACITY

SIGNATURE

NAME OF FIRM

DATE

WITNESSES	
1
2
DATE:	

Annexure A-SBD1 form
(Form must be completed and sent back with the quotation)