



RFP 32/2022

**VIRTUAL REALITY TRAINING
SIMULATOR FOR MEDIUM AND HIGH
VOLTAGE NETWORKS FOR CENTLEC
(SOC) LTD.**

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1. STATEMENT OF INVITATION

CENTLEC (SOC) Ltd, a Mangaung Metro Municipal entity, distributing electricity in the Mangaung Metro area and other municipalities, requests proposals to research, design, install, commission, maintain and repair service of a virtual reality training simulator for Medium and High Voltage networks mimicking the networks configuration of CENTLEC (SOC) Ltd for the training of personnel for a period of thirty-six (36) months.

2. MINIMUM REQUIREMENTS

- 2.1 Supply unique security personal identification number (PIN) and/or original TAX Clearance Certificate for TAX compliant status.
- 2.2 Supply municipal services (water, sanitation, rates and electricity) clearance certificate or Lease Agreement with a current Bill and rates clearances, or Current Bill of Account not owing more than 90 days. In a case where the services are paid by the Landlord, the signed lease agreement and statement of account must be submitted by the bidder.
 - 2.2.1 In an event, that the Bidder utilizes prepaid services (e.g. Water or electricity) a valid municipal clearance certificate(s) must still be provided.
- 2.3 The bidder must be registered on the National Treasury Centralized Suppliers Database
- 2.4 A valid letter of good standing from the Compensation Commissioner with the Department of Labour or from relevant bodies.
- 2.5 The bidder must submit an ECSA certificate (Software Engineer)
- 2.6 Please note that the Special Conditions table as per point 3 below, need to be met. All supporting documents needs to be submitted where applicable.

3. SPECIAL CONDITIONS

Take Note that it is compulsory for Bidders to complete the table in full.

Any omission or “no” will be an automatic disqualification.

No	DESCRIPTION	YES	NO	SUPPORTING DOCUMENTS
1	The service provider shall ensure that no property (CENTLEC's or private) is damaged or misused in the execution of the task			N/A
2	The successful bidder will be expected to enter into a Service Level Agreement with CENTLEC for thirty-six (36) months. Bidder will provide annual licensing subscription for the system.			N/A
3	The successful service provider shall have public liability insurance to cover any liability claims from the public.			Upon appointment
4	The service provider must train CENTLEC (SOC) Ltd Training and Development employees on the use of the virtual reality training simulator during the duration of this contract. (Transfer of skills).			N/A
5	The Bidder must be a South Africa based company with all the necessary facilities to repair the complete virtual reality training simulator and related equipment. Compile a complete profile and submit it. (Profile of company)			Upon appointment
6	The successful bidder shall ensure that his employees are properly informed and trained to perform the task. Submit a letter of commitment for training of CENTLEC (SOC) Ltd personnel for the whole term of contract. All his employees must be vetted for security purposes.			Upon appointment

7	The bidder shall ensure that all tasks are performed in line with applicable legislation, e.g. OHS ACT, Construction Regulations, Labour Act, Electricity Amendment Act, Electricity Supply Regulations, the Mangaung Metro Municipality By-laws relating to electricity supply and the Standard operating procedures of CENTLEC (SOC) Ltd.			N/A
8	The successful bidder shall conduct a risk assessment of the work to be performed and must ensure that spares on the virtual reality training simulator equipment are available within two (2) weeks after receiving an order			Upon appointment
9	The successful bidder will be required to submit a Health and Safety file before commencing with duties. The Health and Safety file will have to meet the CENTLEC (SOC) Ltd standard that forms part of this specification and it will have to be submitted within two weeks of receiving the appointment letter.			Upon appointment
10	The successful bidder shall inform CENTLEC (SOC) Ltd of any sub-contractor they employed during the duration of the contract and shall ensure that the Health and Safety file of the sub-contractor is updated accordingly			Upon appointment
11	The successful bidder is required to provide a minimum of one (1) year guarantee on all the equipment supply and workmanship.			Upon appointment
12	The successful bidder will be required to provide repair and maintenance service for the duration of the contract.			Upon appointment

13	The successful bidder must be available for assistance with any emergency support and repairs on software and hardware within 48 hours			Commitment letter
14	The following must be provided after installation: i. As built drawings. ii. Training – a minimum 5 days must be incorporate in the cost to training staff and system administrator in terms of the system setup and operation.			Upon appointment
15	The simulator must be installed at the CENTLEC (SOC) Ltd. Training and Development Centre at 30 Rhodes Avenue, Oranjesig, Bloemfontein, 9301			N/A

Table 1. Special Conditions

4. DEFINITIONS AND ABBREVIATIONS

CIDB - Construction Industry Development Board

SEIFSA - Steel and Engineering Industries Federation of Southern Africa

CPA - Consumer Protection Act

AA - Automobile Association

5. SCOPE OF WORK

The successful bidder will be expected to design, install, commission, maintain and repair service of a virtual reality training simulator for Medium and High Voltage networks mimicking the networks configuration. The virtual reality training simulator system will be aimed at training operators to open, isolate and earth a typical Medium and High voltage network based on the CENTLEC (SOC) Ltd Standard Operating Procedures.

6. TECHNICAL SPECIFICATION

Detailed technical specifications to be listed by the appointed service provider after a visual presentation of overall training simulator addressing all three listed voltage ranges according to the CENTLEC needs.

As a **minimum guideline all technical specifications** should equal or supersede the following equipment:

6.1 PC System Information

Gaming Motherboard: ASUS ROG MAXIMUS XIII HERO ATX LGA 1200

Processor: Intel 11th Gen Core i9-11900KF Rocket Lake up to 5.30GHz

Memory: 2 X 16 GB ddr4 2666 mhz ram

Graphics Card: GeForce RTX 3060 Ti GAMING OC 8G GDDR6

Storage: 1TB NVMe PCIe M.2 2280 Internal SSD

Any Gaming Case

6.2 Headset:

VIVE Pro + two controllers and 2 Base stations minimum (Buy as set)

Headset must be compatible with the VR software

Disk & DVD/CD-ROM Drives (depending on manufacturer)

File System: NTFS

Model: WDC WD1003FZEX-00K3CA0

Drive: E:

Free Space: 732.8 GB

Total Space: 953.8 GB

File System: NTFS

Model: WD Elements 10A2 USB Device

6.3 Television Set:

- 1 X QN800A Neo QLED 8K Smart TV 65 Inch
- (1meter 63centimeter)
Quantum Matrix Technology Pro with Mini LED
Neo Quantum Processor 8K with AI Upscaling
OTS+ & Space Fit Sound

5.4 The virtual reality system equipment that will be able to simulate three (3) separate voltage ranges namely 11kV, 33kV and 132kV must comprise of the following modeled apparatus:

11kV

- i. 11 kV Isolator (Control Building)
- ii. 11 kV Breaker (Control Building)
- iii. 11 kV Transformer (Outdoor Yard)
- iv. 11 kV Buscoupler (Control Building)
- v. 11 kV Feeder Relay Panel (Control Building)
- vi. Typical Control Building
- vii. Earth leads to earth the isolators
- viii. The following documents must be modeled in the system
 - A. Operating instructions
 - B. Operating Instructions and indications should the protocols not be followed
 - C. Single Line Diagram

33kV

- i. 33 kV Line Isolator (Outdoor Yard)
- ii. 33 kV Breaker with mechanism box (Outdoor Yard)
- iii. 33 kV Current Transformer (Outdoor Yard)
- iv. 33 kV Busbar Isolator (Outdoor Yard)
- v. 33 kV Feeder Relay Panel (Control Building)
- vi. Typical Control Building
- vii. Earth leads to earth the isolators
- viii. The following documents must be modeled in the system
 - A. Operating Instructions

- B. Operating Instructions and indications should the protocols not be followed
- C. Single Line Diagram

132kV

- i. 132 kV Line Isolator (Outdoor Yard)
- ii. 132 kV Breaker with mechanism box (Outdoor Yard)
- iii. 132 kV Current Transformer (Outdoor Yard)
- iv. 132 kV Busbar Isolator (Outdoor Yard)
- v. 132 kV Feeder Relay Panel (Control Building)
- vi. Typical Control Building
- vii. Earth leads to earth the isolators
- viii. The following documents must be modeled in the system
 - A. Operating Instructions
 - B. Operating Instructions and indications should the protocols not be followed
 - C. Single Line Diagram

5.5 The software must be able to capture the information of each learner, as well as all assessments, on a database for retrieval and reference. Systems should be able to backup all data in the SQL server.

7. EVALUATION CRITERIA

All proposals submitted will be evaluated in accordance with the criteria set out in the policy of Supply Chain Management of the Entity.

The most suitable candidate will then be selected. Please take note that CENTLEC (SOC) Ltd is not bound to select any of the firms submitting proposals. CENTLEC (SOC) Ltd furthermore reserves the right to select more than one bidder.

Furthermore, **technical competence is the principal selection criteria**, CENTLEC (SOC) Ltd will evaluate the technical criteria first, and will only look at the price and specified goals if it is satisfied with the technical evaluation. As a result of this, CENTLEC (SOC) Ltd does not bind itself in **any way** to select the firm offering the lowest price.

7.1 The relative technical weighting of the criteria is as follows:

Item	Criteria	Description	Weight
7.1.1	48 Hour availability	Submit a letter of commitment that the bidder will be available within 48 Hours to assist in emergencies. Refer to table 2 (point 13) above = 30 points	30
7.1.2	Track record and experience.	Does the bidder have provided these services before? Submit reference letters. Two (2) letters = 15 points Three (3) letters and more = 30points	30
7.1.3	Presentation	Bidder must be able to perform demonstration of a Virtual Reality Simulator where an electrical operator is performing switching / earthing in electrical environment with the relevant switching instructions. = 30 points	30
7.1.4	Locality Facilities in SA.	Does the bidder have a RSA based company with operational capability to do services? RSA = 5 Points Mangaung = 10 Points	10
	TOTAL		100

Table 2. Evaluation Criteria

A bidder who gets a minimum of 80 points and above on will qualify to the next stage. Individual tenders would have to be evaluated according to the preferential point system.

Item 1. Minimum points = 30 points

Item 2. Minimum points =15 points

Item 3. Minimum points = 30 points

Item 4. Minimum points = 5 points, in the Evaluation Criteria

7.2 PRICE AND REFERENTIAL POINTS SCORING – STAGE 2 (Price and Specified Goals requirement)

All Bidders that have passed the technical evaluation threshold of 80 points would also be scored based on the 80/20 principle where 80 Points are for the Price and 20 points for specified goals as per the detail given below:

Points awarded for price.

A maximum of 80 Points is allocated for price on the following basis:

$$\text{Where } P_s = 80 \left[1 - \frac{P_t - P_{\min}}{P_{\min}} \right]$$

P_s = Points Scored for the comparative price of a bid under consideration

P_t = Comparative Price of a bid under consideration

P_{\min} = Comparative Price of lowest acceptable bid

7.3 POINTS AWARDED FOR SPECIFIC GOALS

In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table below as may be supported by proof/ documentation stated in the conditions of this tender:

Specified Goals for Preferential Point System

Specified Goals	Points Allocation
50% Black owned	10
50% Women owned	5
50% Youth owned <35 years	5
Total Points	20

Table 3: Specified Goals

8. PRICING SCHEDULES.

Item	Description of equipment	Unit of Measure	Price (R) VAT exclusive
8.1	Provision and installation of VR System	Per unit	
8.2	Commissioning of VR Simulator	Per unit	
8.3	Repair and Maintenance service	Per hour	
8.4	Emergency call out fee	Per call out	

Table 4. Pricing Schedule

9. CONTACT DETAILS

9.1 For any further technical information regarding the document contents, please contact Ashley Kayser via e-mail: Ashley.Kayser@centlec.co.za Such queries must be done in writing, the email address provided serves this purpose. The answer to one question will be sent to all the other prospective bidders that have bought the bid documents.

9.2 For Supply Chain Related questions, please contact Me Palesa Makhele at 051 412 2753 or at Palesa.Makhele@centlec.co.za