

# Electrical Training Equipment



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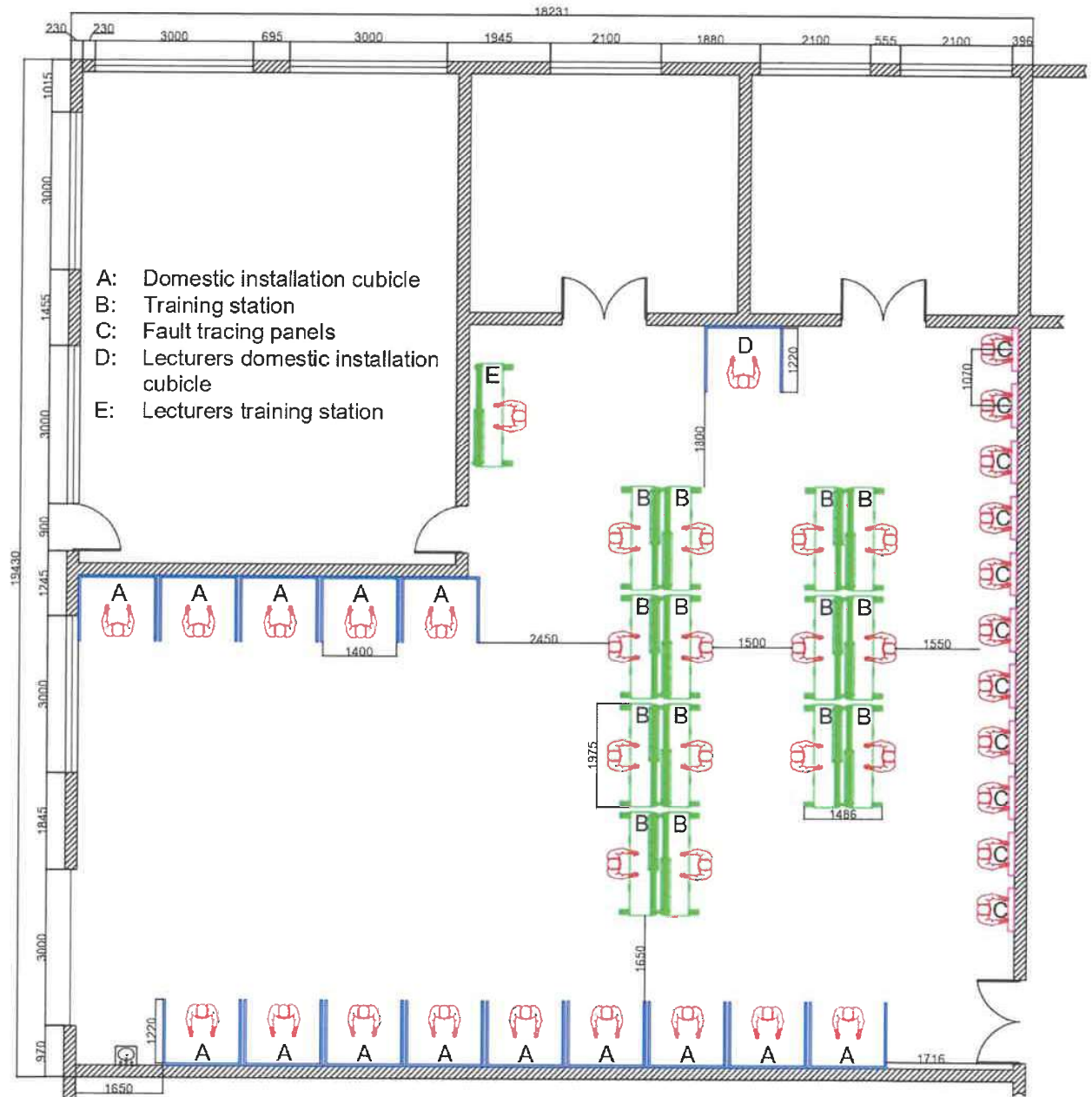
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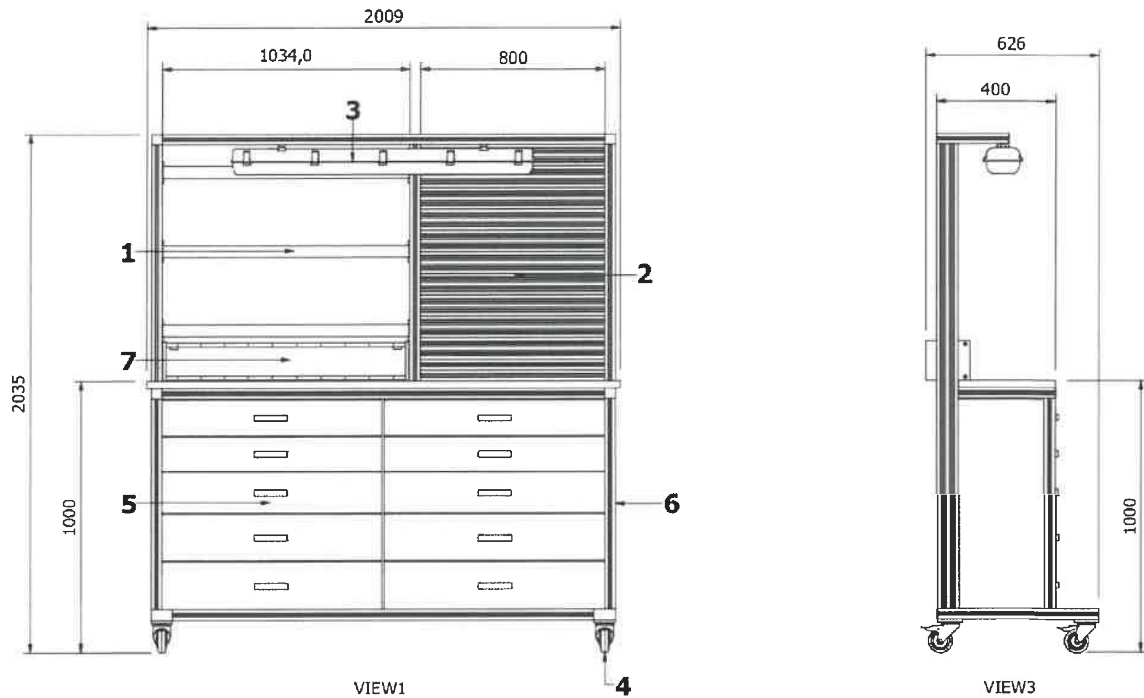
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## Proposed Practical Training Area layout



## Training Desks and Modules x 8

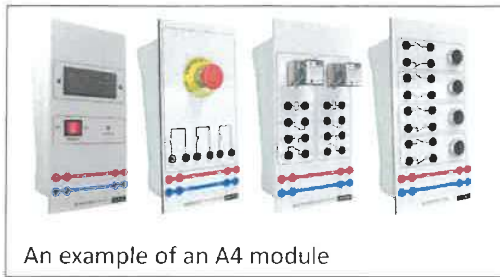


1 x Training desk with the following specifications.

1. Aluminium profile to hold A4 training modules. Frame to be manufactured from 45mm x 45mm and 45mm x 90mm aluminium extrusion with a 10mm slot.
2. Holding surface for holding electrical components.
3. LED light fitting with 2 x LED tubes 6500K (colour) tubes (5 Ft) Weatherproof
4. Castors 100mm (all four to be braked casters) Cast iron inner with Polyurethane covering.
5. 10 x Draws with foam cutouts for holding of electrical parts and modules ect.
6. Frame
7. Power Distribution Module fitted with the following
  - E-Stop (to cut all power from the distribution board)
  - Key switch to disable the power distribution panel
  - Main Isolator
  - 16A RCBO 30mA 3 Phase
  - 10A RCBO 30mA 1 Phase
  - 3 x IEC Sockets C13 10A 250V

## A4 (297mm) Modules (Modules to slot into frame – Item 1)

Quantity 8 Sets (Parts list below is one set)



An example of an A4 module

- 1 Off Module with 4 NO/NC Pushbuttons 22mm 2 x GREEN and 2 x BLACK (Push to make/release to break)
- 1 Off Module with 4 NO/NC Pushbuttons 22mm 2 x RED and 2 x BLACK (Push to make/release to break)
- 1 Off Module with 4 Selector Switches 2-positions Stay in both positions NO/NC contact on each selector switch
- 2 Off Modules with 2 Relays 3PDT 24Vdc coil 11 Pin 10Amp Contacts in each module
- 1 Off Module with 22mm Pilot lights LED 24Vdc GREEN, RED, ORANGE, BLUE, WHITE
- 1 Off Module with Siemens LOGO and expansion module 12 DI, 8 DO Relay, 4 analog inputs with
  - 4 x Voltage generators, 4mm Banana sockets, 4 x 20 Line LCD, Input simulation switches, 24Vdc supply voltage, Logo Base model ((6ED1052-1MD08-OBA1)
- 1 Off Module 24V 5A DC Power Supply Module
- 2 Off Modules with 2 Multifunction 24Vdc timers on each module
- 2 Off Modules with 2 x Contactors with 2x NO and 2 x NC contact with 24Vdc coil (2 contactors per module)
- 1 Off E-Stop module with 2 x NC Contact and 1 x NO Contact
  
- 10 Off 300mm Banana Plug leads with 2 x 4mm Safety Banana plug BLACK Wire and Plug 1.5mm<sup>2</sup>
- 10 Off 500mm Banana Plug leads with 2 x 4mm Safety Banana plug BLACK Wire and Plug 1.5mm<sup>2</sup>
- 10 Off 750mm Banana Plug Lead with 2 x 4mm Safety Banana plug BLACK Wire and Plug 1.5mm<sup>2</sup>
  
- 5 Off 300mm Banana Plug leads with 2 x 4mm Safety Banana plug RED Wire and Plug 1.5mm<sup>2</sup>
- 5 Off 500mm Banana Plug leads with 2 x 4mm Safety Banana plug RED Wire and Plug 1.5mm<sup>2</sup>
- 5 Off 750mm Banana Plug Lead with 2 x 4mm Safety Banana plug RED Wire and Plug 1.5mm<sup>2</sup>
  
- 5 Off 300mm Banana Plug leads with 2 x 4mm Safety Banana plug BLUE Wire and Plug 1.5mm<sup>2</sup>
- 5 Off 500mm Banana Plug leads with 2 x 4mm Safety Banana plug BLUE Wire and Plug 1.5mm<sup>2</sup>
- 5 Off 750mm Banana Plug Lead with 2 x 4mm Safety Banana plug BLUE Wire and Plug 1.5mm<sup>2</sup>
  
- 2 Off 1500mm Banana Plug Lead with 2 x 4mm Safety Banana plug RED Wire and Plug 2.5mm<sup>2</sup>
- 2 Off 1500mm Banana Plug Lead with 2 x 4mm Safety Banana plug WHITE Wire and Plug 2.5mm<sup>2</sup>
- 2 Off 1500mm Banana Plug Lead with 2 x 4mm Safety Banana plug BLUE Wire and Plug 2.5mm<sup>2</sup>
- 2 Off 1500mm Banana Plug Lead with 2 x 4mm Safety Banana plug BLACK Wire and Plug 2.5mm<sup>2</sup>
  
- 10 x RED 19mm Banana Plug Jumper Insulated
- 10 x BLUE 19mm Banana Plug Jumper Insulated

## Equipment Modules (Modules to attach onto 10mm slot with M8 T bolts – Item 2)

Quantity 8 Sets (Parts listed below is one set)

6 x Modules Contactor LC1K0910P7 (230V Coil) with Aux Block LA1KM22 (1 Contactor per module)  
4 x Modules MCB 6A Double pole type 2P (EZ9F53206) (1 MCB per module)  
4 x Modules MCB 6A Single Pole type 1P (EZ9F53106) (1 MCB per Module)  
4 x Modules MCB 10A Three Phase (EZ9F53310) (1 MCB per module)  
4 x Modules Multi-Function Timer 12 to 240V ac/dc 0.1s to 100h SPDT  
1 x Module E-Stop Module with 2 x NC and 1 x NO contact Mushroom head twist to release  
1 x Module M850-LTHN-RS-PO Power Meter R2520  
2 x Modules Limit Switches 1NC/1NO contact with spring lever Actuator (1 per module)  
1 x Module 72mm 5A Direct AC Ammeter  
1 x Module 72mm 0 to 500Vac Voltmeter  
3 x Modules Current Transformers 20:5 ratio (1 CT per module)  
6 x Modules Resistor 1200 Ohm 300 Watt with tapping band (1 Resistor per module) with perforated cover  
1 x Module 25 Amp 3 Phase Isolator Lockable  
2 x Modules Selector Switch (3 switches per module) NO/NC contacts  
2 x Modules 2 Relays per module 3PDT 230Vac coil 11 Pin 10Amp Contacts (Finder Part No. 601382300040)  
2 x Modules NO/NC Pushbuttons 22mm GREEN, RED, BLACK (3 Switches per module)  
2 x Modules 22mm Pilot lights LED 220 V GREEN, RED, ORANGE (3 Indicators per module)  
3 x Modules Commoning Module 6 x M6 Brass studs on each module  
1 x Module Motor Protection Circuit Breaker 0.45 to 0.63A for 0.18Kw 3 Phase motor (Siemens)  
1 x Module 63 Amp RCB 30mA trip current 3 Phase + N  
1 x Module Amp meter selector switch 3P 10A 4 position (Red, White, Blue, Off)  
1 x Module Voltage selector switch 3P 10A 7 Position (RW, WB, BR, OFF, RN, WN, BN)  
1 x Module Brass Bar for Earth (8 Way)  
1 x Module Brass Bar for Neutral (8 Way)  
2 x Modules 3 Fuse holders on each module for 10x38mm Fuse  
1 x Module Star/Delta Timer 240Vac  
1 x Module with 2 x 240V buzzers  
1 x Star/Delta Cam Switch 10A 3P 3 position  
1 x 1 KW Auto Start Transformer 5 ST/HR  
1 x Module with Thermal Overload relay LRD046 0.45 to 0.63A with Holder  
1 x Module 72mm 5A ac Ammeter for CT panel  
1 x Module 72mm 500V ac Voltmeter 400 = 16V PT panel  
3 x Module Volted Transformer 400 – 16 V 1.6A (1 Transformer per module)  
2 x Modules DC contractor 230V DC Coil with Aux block 2 NO/2 NC  
1 x Module DC Overload 0.63 – 1A  
1 x Module 6A CB for DC Panel  
1 x Module 2A CB for DC Panel  
1 x Module Rectifier 220V DC output KBPC5006  
1 x Module off delay timer 240V  
1 x Module forward and reverse rotary switch single phase  
1 x Module forward and reverse rotary switch three phase  
1 x Module 2 speed rotary switch  
3 x Module 24V 11 pin relays (1 per module)  
1 x Module 230V – 24V 50VA Transformer  
3 x Modules SPDT Toggle switch (1 per module)  
1 x Module 22mm Pilot lights LED 24V green, red, orange, blue, buzzer  
1 x Module three phase energy meter

- 1 x Module 7-day timer
- 3 x Modules single phase energy meter (1 per module)
- 3 x Modules edison screw lamp holders with lamps
- 1 x Module contactor 230V LCIKO90P7 with pneumatic timer NO/NC

## Fault Finding Panels (Quantity: 7 as specified below)

1. 1 Off Automatic Star/Delta Starter Panel
2. 1 Off Automatic Star/Delta starter panel with forward and reverse
3. 1 Off Stage forward and reverse Panel
4. 2 Off Oscillating Panels
5. 1 Off PLC Fault tracing Panel
6. 1 Off Auto Transformer Panel

All Panels to be fitted with a lockable 25A mains isolator and all other safety equipment according to international best practice.

Fault finding components to be located inside an approx. 600 x 500 x 250 Steel (Grey) enclosure as used in industry. Introduction of faults by means of 10 x switches mounted on the side of the panel as shown below. Switches to be covered by means of a lockable lid. Drawing of the panels to be supplied. Drawings to indicate where the fault is located.

Panels to be wall mounted on brackets and must be easily removable from the wall. (Lift and remove)

### **PLC Panel**

PLC panel to contain a Siemens LOGO (6ED1052-1MD08-OBA1)

- All outputs to be protected with 1A fuses.
- All inputs and outputs to terminate in terminal blocks. Switches and lights are not to be wired directly into the PLC.
- All wire numbers to correspond to numbers on the drawings.
- 4 x Push to make release to break push buttons mounted on the door of the panel. Green, Red, Black, Blue
- 3 x Selector switches mounted on the door of the panel
- 1 x Mushroom head emergency stop switch mounted on the door of the panel
- 4 x Indicator lights mounted on the door of the panel. Red, Orange, Green, Blue
- 24V Power Supply. All components to be DIN rail mounted inside the panel except those mounted on the door.
- System to be supplied with at least 4 different programs.
- Fault location switches to be located on the sided of the panel



## Electric Motors

5 Off Electric Motor Single Phase Capacitor Start 0.18Kw 4 Pole 230V Foot Mount

5 Off Electric Motor Single Phase Capacitor Run 0.18Kw 4 Pole 230V Foot Mount

5 Off Electric Motor Single Phase Capacitor Start/Run 0.18Kw 4 Pole 230V Foot Mount

8 Off 3 Phase Squirrel Cage Motor 0.18 Kw 4 Pole 400V Foot Mount

1 Off 3 Phase Electric Braked Motor Foot Mount 0.37Kw 4 Pole

2 Off Slip Ring motor 0.27Kw 400V 4 Pole, Excitation voltage 95V

All motor connections to be terminated with 4mm colour coded safety banana plugs as follows

Motor to be attached to an extruded Aluminium profile with rubber feet.



Motor shaft to be enclosed as shown below.

5 off two speed motor 400V foot mount 1380/2830 RPM 0.75/0.85KW

5 off DC compound motor power 250W speed 3000RPM



**BID SPECIFICATION COMMITTEE HELD ON MONDAY, 18 NOVEMBER 2024  
VIA SKYPE**

**AGENDA**

1. OPENING AND WELCOME
2. ATTENDENCE
3. DECLARATION OF INTEREST
4. MATTERS TO BE TABLED

**4.1 RFQ/SCM EMC 23/24 – Supply and delivery of equipment for the Electrical Engineering Workshop for Woeke Street Campus**

- 4.1.1 TYPE OF PROJECT
- 4.1.2 CONFIRMATION OF BUDGET
- 4.1.3 ADVERTISEMENT
- 4.1.4 BID SPECIFICATIONS
- 4.1.5 ADDITIONAL REQUIREMENTS

**5. RECOMMENDATION**

**6. CLOSURE**

**BID SPECIFICATION COMMITTEE HELD ON MONDAY, 18 NOVEMBER 2024  
VIA SKYPE**

**1. OPENING AND WELCOME**

**2. ATTENDANCE**

*The confirmation of attendance was done via SKYPE.*

*In addition, committee members were required to confirm attendance via email.*

**3. DECLARATION OF INTEREST**

*Committee members were required to formally declare interests via email.*

**4. MATTERS TO BE DISCUSSED**

**4.1 TYPE OF PROJECT**

**RFQ/SCM EMC 23/24 – Supply and delivery of equipment for the Electrical Engineering Workshop for Woeke Street Campus**

**4.2 CONFIRMATION OF BUDGET/FUNDS/APPROVAL**

**4.2.1. Financial Approval**

*The budget was approved and signed by, Mr N Momoza, Deputy Principal Finance / CFO on 07/11/2024 – see attached appendix.*

**4.2.2. Accounting Officer Approval**

*Mr Van Heerden approved and signed on 08/11/2024 – see attached appendix.*

**4.2 ADVERTISEMENT**

**RFQ/SCM EMC 23/24 – Supply and delivery of equipment for the Electrical Engineering Workshop for Woeke Street Campus**

**4.4 BID SPECIFICATIONS**

The Bid Specification and evaluation criteria are attached hereto

**4.5 ADDITIONAL REQUIREMENTS**

**NONE**

5. RECOMMENDATION

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MINUTES APPROVED BY:



CHAIRPERSON  
BID SPECIFICATION COMMITTEE

18/11/2024

DATE

COMMENTS:

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BID SPECIFICATION COMMITTEE MEMBERS (RFQ/SCM EMC 23/24)

|      |           |      |
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| NAME | SIGNATURE | DATE |
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|      |           |      |
|------|-----------|------|
| NAME | SIGNATURE | DATE |
|------|-----------|------|

## Sesona Kibi

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**From:** lester moos <lester@emcol.co.za>  
**Sent:** Monday, 18 November 2024 04:31  
**To:** 'Sesona Kibi '  
**Subject:** RE: Declaration: RFQ/SCM EMC 23/24 - SUPPLY AND DELIVERY OF EQUIPMENT FOR ELEC FOR WOEKE STREET CAMPUS  
**Attachments:** MINUTES FOR RFQ-SCM EMC 23-24- EQUIPMENT FOR ELECTRICAL ENGINEERING WORK

Good afternoon

Please find this email as my declaration as I don't have anything to declare.

**From:** Sesona Kibi <sesona@emcol.co.za>  
**Sent:** Monday, 18 November 2024 13:19  
**To:** 'lester moos' <lester@emcol.co.za>; 'Kurt Flanagan' <kflanagan@emcol.co.za>; 'Lungisa Mpati' <lungisa@emcol.co.za>; <royas@emcol.co.za>  
**Subject:** Declaration: RFQ/SCM EMC 23/24 - SUPPLY AND DELIVERY OF EQUIPMENT FOR ELECTRICAL ENGINEERING WORK

Good Day Committee Members,

With reference to the BSC meeting held on the 18 November 2024 at 09:00 via SKYPE, attached is the final BSC report for:

### **RFQ/SCM EMC 23/24 – SUPPLY AND DELIVERY OF EQUIPMENT FOR ELECTRICAL ENGINEERING WORKSHOP FOR**

As agreed at the meeting all BSC members are required to do the following:

1. Declaration of Attendance of above-mentioned meeting by responding to this mail  
**I declare.**
2. Declaration of Interest, Confidentiality & Impartiality by responding to this mail
  - I declare that I did not purposefully unlawfully favour prejudice anyone in the procurement process (invitation, evaluation, recommendation o. C4.12 and C5.3 to C5.4 of the Public Service.
  - I, the undersigned, accept that all information, documentation and decisions regarding any matter serving before the Committee are confidential in this regard.

## Sesona Kibi

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**From:** Lungisa Mpati <lungisa@emcol.co.za>  
**Sent:** Monday, 18 November 2024 14:17  
**To:** Sesona Kibi  
**Subject:** RE: Declaration: RFQ/SCM EMC 23/24 - SUPPLY AND DELIVERY OF EQUIPMENT FOR ELEC FOR WOEKE STREET CAMPUS

I have attended the meeting and I had no personal interest in the matter before the committee.

L Mpati  
Labour Relations

**From:** Sesona Kibi <sesona@emcol.co.za>  
**Sent:** Monday, November 18, 2024 1:19 PM  
**To:** Lester Moos <lester@emcol.co.za>; Kurt Flanagan <kflanagan@emcol.co.za>; Lungisa Mpati <lungisa@emcol.co.za>; R <royas@emcol.co.za>  
**Subject:** Declaration: RFQ/SCM EMC 23/24 - SUPPLY AND DELIVERY OF EQUIPMENT FOR ELECTRICAL ENGINEERING WORK

Good Day Committee Members,

With reference to the BSC meeting held on the 18 November 2024 at 09:00 via SKYPE, attached is the final BSC report for:

### **RFQ/SCM EMC 23/24 – SUPPLY AND DELIVERY OF EQUIPMENT FOR ELECTRICAL ENGINEERING WORKSHOP FC**

As agreed at the meeting all BSC members are required to do the following:

1. Declaration of Attendance of above-mentioned meeting by responding to this mail  
**I declare.**
2. Declaration of Interest, Confidentiality & Impartiality by responding to this mail
  - *I declare that I did not purposefully unlawfully favour prejudice anyone in the procurement process (invitation, evaluation, recommendation or C4.12 and C5.3 to C5.4 of the Public Service.*
  - *I, the undersigned, accept that all information, documentation and decisions regarding any matter serving before the Committee are confidential in this regard.*
  - *I also declare that I will not purposefully favour or prejudice anybody.***I declare.**

## Sesona Kibi

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**From:** Royas Mazorodze <royas@emcol.co.za>  
**Sent:** Monday, 18 November 2024 14:10  
**To:** 'Sesona Kibi '  
**Subject:** RE: Declaration: RFQ/SCM EMC 23/24 - SUPPLY AND DELIVERY OF EQUIPMENT FOR ELEC FOR WOEKE STREET CAMPUS

Dear Sesona

With reference to the BSC meeting held on the 18 November 2024 at 09:00 via SKYPE, attached is the final BSC report for:

### RFQ/SCM EMC 23/24 – SUPPLY AND DELIVERY OF EQUIPMENT FOR ELECTRICAL ENGINEERING WORKSHOP FC

1. Declaration of Attendance of above-mentioned meeting by responding to this mail  
**I declare.**
2. Declaration of Interest, Confidentiality & Impartiality by responding to this mail
  - *I declare that I did not purposefully unlawfully favour prejudice anyone in the procurement process (invitation, evaluation, recommendation or C4.12 and C5.3 to C5.4 of the Public Service.*
  - *I, the undersigned, accept that all information, documentation and decisions regarding any matter serving before the Committee are confidential anything in this regard.*
  - *I also declare that I will not purposefully favour or prejudice anybody.***I declare.**
3. Declaration and Approval that attached BSC reports (minutes & approved Request for Approval) is a true reflection of the meeting **I declare.**

Thank you

Regards 

Landline: +27 (041) 995 2051 | Fax: 041 995 2047  
Email: [sesona@emcol.co.za](mailto:sesona@emcol.co.za) | Web-site: [www.emcol.co.za](http://www.emcol.co.za)



**higher education  
& training**  
Department:  
High Education and Training  
REPUBLIC OF SOUTH AFRICA



**Eastcape  
Midlands  
College**



## Sesona Kibi

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**From:** Kurt Flanagan <kflanagan@emcol.co.za>  
**Sent:** Monday, 18 November 2024 18:21  
**To:** Sesona Kibi  
**Subject:** RE: Declaration: RFQ/SCM EMC 23/24 - SUPPLY AND DELIVERY OF EQUIPMENT FOR ELEC FOR WOEKE STREET CAMPUS

Good day Kibi

I hereby declare to points 1, 2, 3 in the email below.

Kind regards

**Kurt Flanagan | High Street Campus**



[kflanagan@emcol.co.za](mailto:kflanagan@emcol.co.za)

Web-site: [www.emcol.co.za](http://www.emcol.co.za)



**Eastcape Midlands College**

*Creating New Futures*



**From:** Sesona Kibi <sesona@emcol.co.za>

**Sent:** Monday, 18 November 2024 13:19

**To:** Lester Moos <lester@emcol.co.za>; Kurt Flanagan <kflanagan@emcol.co.za>; Lungisa Mpati <lungisa@emcol.co.za>; R <royas@emcol.co.za>

**Subject:** Declaration: RFQ/SCM EMC 23/24 - SUPPLY AND DELIVERY OF EQUIPMENT FOR ELECTRICAL ENGINEERING WORK

Good Day Committee Members,

With reference to the BSC meeting held on the 18 November 2024 at 09:00 via SKYPE, attached is the final BSC report for:



**RFQ/SCM EMC 23/24 – SUPPLY AND DELIVERY OF EQUIPMENT FOR ELECTRICAL ENGINEERING WORKSHOP FC**

As agreed at the meeting all BSC members are required to do the following: