AG Energies Company Ltd.
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TECHNICAL REPORT ON ELECTRICAL CABLE UPGRADE IN ST. FRANCIS IFAKARA HOSPITAL

Location: St. Francis Ifakara Referral Hospital
Prepared by: AG Technical Team
Date: 17/04/2026

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1. Introduction

This report outlines the electrical work carried out at Ifakara Referral Hospital. The work was performed under the supervision of the AG Energies Technical Manager (Eng. George Michael), in collaboration with Deodatus Ndunguru(Tech. from Mbinga) and Christopher Chaula (Ag Technician).

Additionally, the General Manager of St. Francis Ifakara Health Institute actively participated in all stages of the work, including the removal of overheated cables and the installation of new upgraded cables.

Image 1: Technical team together with St. francis Ifakara Mission Hospital General Manager they are installing 4 core 95mm2 Armoud cable

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2. Problem Identification

2.1 Overheating of Main Supply Cable (General Power Cabinet)

An existing **4-core 25mm² cable** connected to the general power cabinet was experiencing overheating due to excessive electrical load.

This cable supplies power to the following areas:

- General Ward
- Private Ward
- University Office
- Hospital Pharmacy (internal)
- Mortuary
- Laboratory
- Anatomy Department
- Cadaver Room

- Administration Block

Image 2: 4 core 25mm^2 which was removed, it was supplying power from Power house to general cabinet

3. Corrective Action Taken

The overloaded cable was replaced with a higher-capacity **4-core 95mm² armored cable**.

Outcome:
The overheating issue in this section has been successfully resolved, and power distribution is now stable.

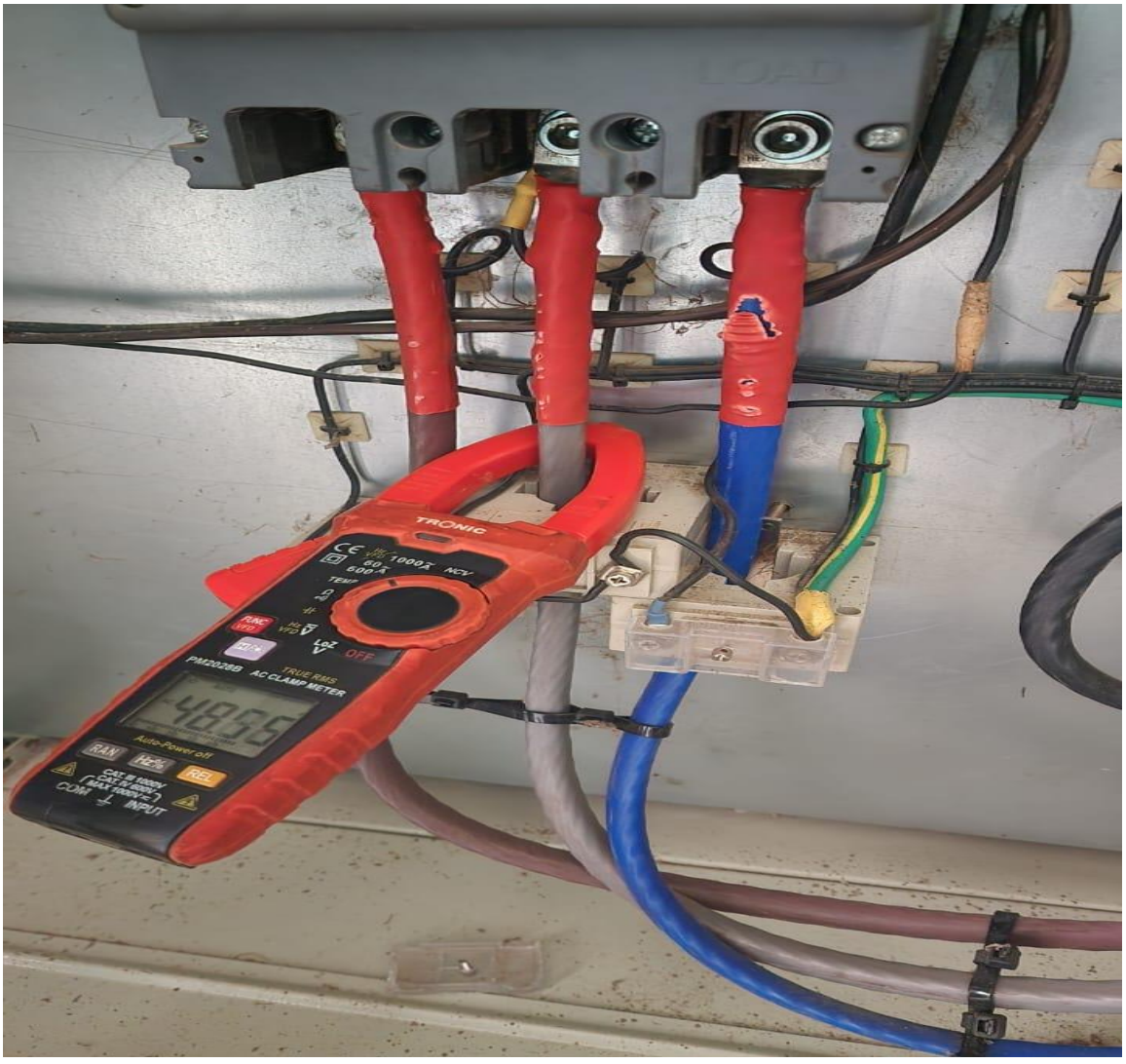

Image 3: New installed cable 4core 95mm^2 from Power house (Gen house) to general cabinet

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4. Secondary Issue Identified

4.1 Cable Supply power from Power House to CDSI Power Cabinet

Another 4core **25mm² cable** supplying power from the power house (Gen house) to the CDSI power cabinet was also overheating.

This cable serves the following critical areas:

- Oxygen Plant
- Dialysis Unit
- Sisters' Convent
- Infusion Block
- Pediatric Ward
- Intensive Care Unit (ICU)
- Mental Health Unit
- Outpatient Department (OPD)

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5. Interim Solution Implemented

To mitigate overheating, the team connected the existing 4core **25mm² cable in parallel** with an existing 4core **50mm² old solar cable**.

Outcome:
This intervention successfully reduced the load on the cable and resolved the overheating issue in this section.

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6. New Issue Observed

6.1 Overheating of Downstream Distribution Cable

The cable running from the CDSI power cabinet to the distribution cabinet (serving the Oxygen Plant, Dialysis, Infusion Block, Pediatric Ward, Mental Health Unit, and ICU) is also overheating.

- Existing cable: **4-core 25mm² armored cable**
- Condition: Overloaded and at risk of failure

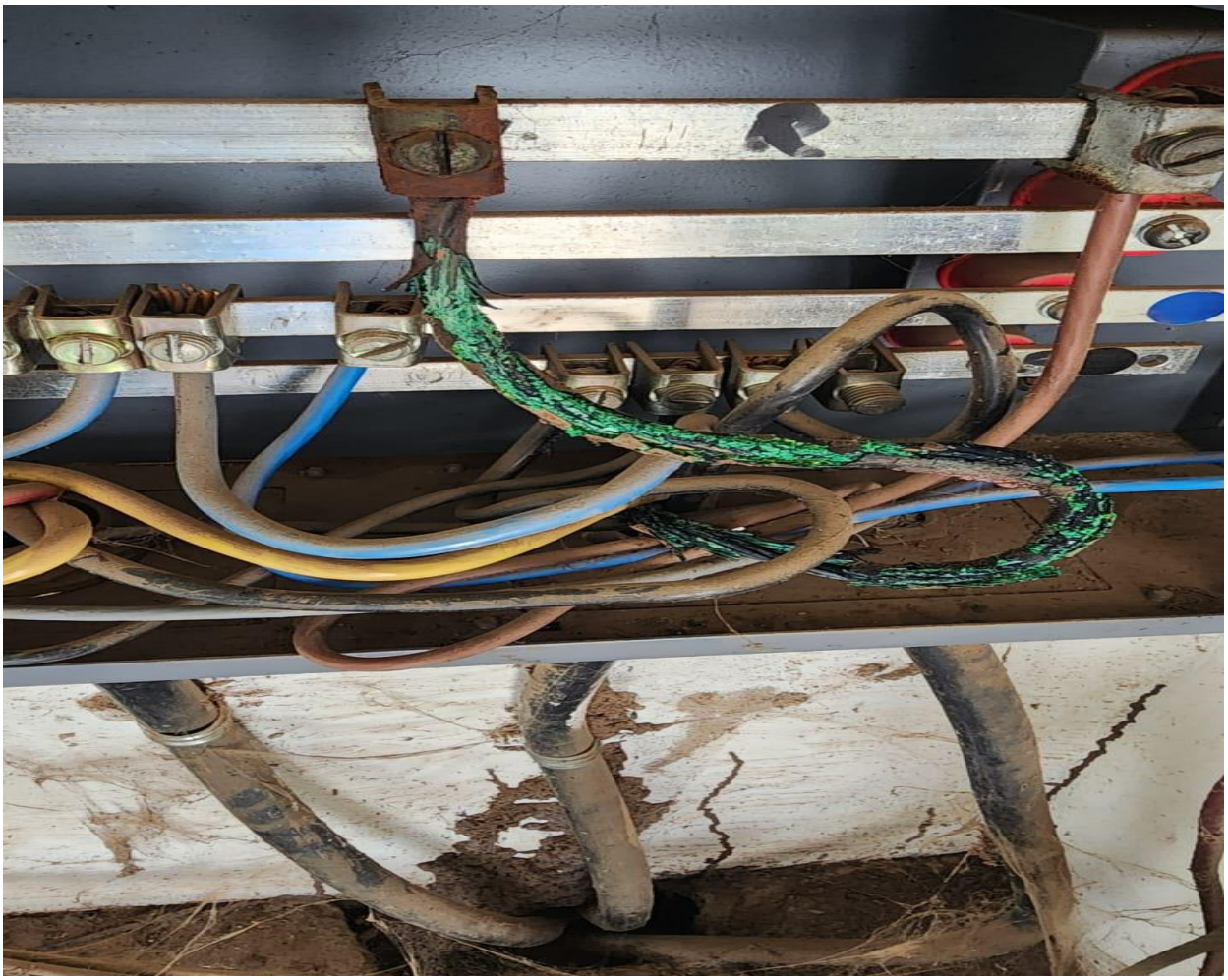

Image 4: 4core 25mm^2 Armoud cable is getting overheated

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7. Recommendation

To prevent cable damage and ensure safe power distribution, the following upgrade is recommended:

- Replace the existing cable with:
  4-core 50mm² armored cable
- Required length: **85 meters**

Justification:
The current cable is insufficient for the load demand and poses a risk of overheating and potential failure. Upgrading to a larger cable size will improve load handling capacity, enhance safety, and ensure uninterrupted operation of critical hospital services.

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8. Conclusion

The AG Technical Team has successfully addressed major cable overheating issues within the hospital's power distribution system. However, additional upgrades are necessary to fully stabilize the network and prevent future failures, particularly in high-demand critical care areas.
