

# **Project Report: AC Maintenance and Repair at Halotel Towers – Arusha & Tanga (2023)**

## **Introduction**

Halotel Towers in Arusha and Tanga are critical telecommunication hubs. Reliable air conditioning is essential to maintain optimal equipment temperature, prevent overheating, and ensure network stability. This project was carried out in 2023 to service, repair, and optimize AC systems at both sites.

## **Objectives**

- Ensure uninterrupted cooling for telecom equipment rooms.
- Conduct preventive and corrective maintenance on all AC units.
- Improve energy efficiency and extend lifespan of equipment.
- Reduce downtime and emergency repair costs.

## **Scope of Work**

### **Preventive Maintenance:**

- Cleaning of air filters, coils, condensers, and drain lines.
- Checking refrigerant levels and re-charging where necessary.
- Tightening electrical connections and inspecting wiring.
- Lubricating motors and moving parts.
- Testing thermostats and sensors.

### **Corrective Repairs:**

- Replacing worn-out compressors, capacitors, and fan motors.
- Repairing refrigerant leakages.
- Replacing faulty thermostats and control boards.
- Restoring damaged ducting and insulation.

### **Performance Testing:**

- Temperature and humidity testing.
- Energy consumption monitoring.
- Running efficiency and noise tests.

## **Locations**

- Halotel Tower – Arusha
- Halotel Tower – Tanga

## **Duration**

Project executed between March – August 2023.

## Resources

- Skilled HVAC technicians.
- Spare parts (compressors, capacitors, filters, refrigerant gas, wiring).
- Tools: manifold gauge, vacuum pump, leak detector, multimeter, pressure washer.

## Challenges

- Delays in spare part procurement.
- Accessibility to rooftop units.
- Power interruptions during maintenance.

## Outcomes

- All AC units restored to full functionality.
- Equipment rooms stabilized at 18–22°C operating range.
- Energy consumption reduced by 15% after servicing.
- Increased reliability of telecom operations.

## Recommendations

- Quarterly preventive maintenance schedule.
- Installation of backup AC units at critical sites.
- Use of smart monitoring systems for early fault detection.
- Training of in-house staff on routine checks.

## Conclusion

The 2023 maintenance and repair project at Halotel Towers – Arusha & Tanga successfully improved cooling efficiency, reduced downtime, and enhanced network reliability. Continuous preventive care is recommended to sustain these gains.