



## African Electrotechnical Standardisation Commission (AFSEC)

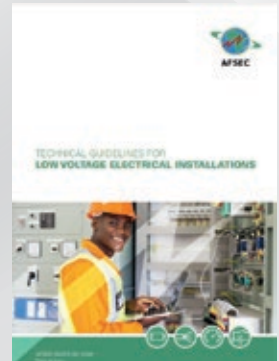
# General Description of the Guides Published by AFSEC

The objective of the Guides published by AFSEC is to provide guidance to utilities in Africa in respect of open international standards to ensure interoperability and to allow African utilities and their suppliers to establish an agreed core system architecture and set of functions that will represent an African “companion specification” based on the relevant international standards.

The Following Guides were published with the Support of PTB/ DKE and are available in both English and French languages.

### ● **Low Voltage Electrical Installations Guide (by ATC64)**

This technical guideline for “**low voltage electrical installation**” is to provide electrical technicians, engineers and many others with a quick reference, immediate use working tool. The Guide is relevant for electrical professionals in companies, design offices and inspection organizations. This document guide covers techniques and standards related to low-voltage electrical installations. It will provide an overview of standards and regulations suitable for application in low voltage electrical installations in Africa. It is not a substitute for technical manuals or standards. This document will be used in conjunction with IEC standards and AFSEC standards, national codes and regulations.



## ● **EMC Guide for Medical Devices (by ATC77)**

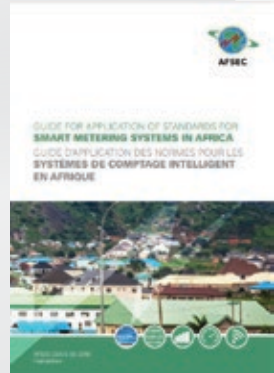
The electrical and electronic products and installations can withstand the changes in the electromagnetic environment if only appropriate levels of EMC are designed in to these deliverables.

A significant number of Medical Devices being imported into the African Continent and do not comply with the basic EMC requirements. To address this important issue the “**EMC Guide for Medical Devices**” was developed to include a brief description of medical devices and EMC, EMC in healthcare, EMC standards for Medical Devices in addition to a test result summary of an actual Medical Device EMC Test.



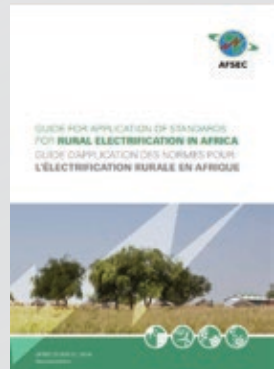
## ● **Smart Metering Systems Guide (by ATC13)**

This AFSEC “**Smart Metering Systems in Africa**” guide provides an overview of standards for technologies used in smart metering systems suitable for application in electrification in Africa. It takes into account existing open standards for metering and communication interfaces. This document should be used in conjunction with international standards, national standards and regulations.



## ● **Application for Standards for Rural Electrification (by ATC82)**

This guide provides an overview of standards for technologies suitable for application in electrification of rural areas in Africa depending on the level of quality of service and the needed quantity of energy that the customer can afford. The guide provides methodological supports for the management and implementation of projects, economic Implications, safety as well as technical specifications for individual or collective systems, hybrid systems and associated components. It Outlines a methodology to achieve the best technical and economic conditions for acceptance, operation, maintenance and replacement of equipment and complete system life cycle.



## Future/ Ongoing Guides

### Smart Meters Technologies (by ATC13)

The guide on Smart Metering communication protocols serves to provide utilities with relevant information on which technologies are available and suitable to meet its metering needs. The utilities can then make informed decisions on which of these are most suitable to deploy in its network.

### Implementation of Automation Standards (by ATC57)

Well-proven, international and regional standards in the utility business which will be included in the “Automation Standards Guide” aim to provide guidance to African utilities concerning the application of power systems control, to allow to the equipment and systems to be interoperable, and to allow to interfaces, protocols and data models to be compatible, in order to optimize the use of the power system in the energy market.

### Interconnection Guideline (by ATC8)

A guide about factors to take into consideration, when connecting power systems of different countries focusing on AC networks. When finally completed it shall:

- Cover planning requirements such as system strength, inertia and short circuit ratios.
- Specify network observability requirements and cover key operational requirements such as voltage and frequency control requirements.
- Specify performance requirements in the event of disturbances and protection requirements.
- Specify the network synchronization criteria in the event the systems are separated.
- Cover issues relating to compatibility of equipment.

### Power Quality & Reliability (by ATC77)

This guide provides a thorough description of standard power quality and reliability parameters and provide guidance to ensure reliable and quality power supply for both customers and service providers in a complex, intelligent and growing power network. The guide presents power quality from three main rubrics namely: disturbances, steady-state phenomena, and continuity and provides strategies to mitigate or eliminate most of these indices of imperfection in power network while ensure a safe, reliable and continuous supply to customers.

## EMF PROTECTION Guide (by ATC77)

The aim of this Electromagnetic Field (EMF) Guide is to provide guidelines based on international criteria for protection against established adverse health effects in humans, associated with EMF exposure.

The attention of the guide is mostly on non-ionizing radiation types affecting humans, meanwhile references have been made to the ionizing radiation types and standards, wherever necessary for clarification.

This guide further suggests measures and strategies to minimize EMF exposures and impacts on humans and also presents some outcomes of laboratory experiments and research outputs on EMF conducted by AFSEC TC 77 members.

## Conformity Assessment Application Guide In Africa (by ACAC)

The overall objective of the development of the guide is to attract high-level professional expertise and to provide an appropriate framework for reflection and sharing of experiences, where topics relating to the issues affecting the development of standardization and conformity assessment will be discussed. The CA application guide aims to develop good regulatory practice in conformity assessment activities whose economic impact in Africa is vital.



Initiative supported by



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