



## **Generators & Emergency Power training**

**VENUE:** KENVISION TECHNIKS WORKSHOPS

**Address:** Q7-9 Feliz Stalls, Kahawa Sukari, Nairobi, Kenya

**Tuition Fee:** USD ~~1,300~~ 1,100

**Date:** As indicated in the event invitation

**Mailing Address**

P.O Box 8178  
00200 City Square  
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**Visiting Address**

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## INTRODUCTION

This **Generators & Emergency Power training** workshop will focus on generators and emergency power so that students will be prepared if there is an emergency situation. This electrical training course provides practical, real world knowledge to keep your facility running smoothly in all situations because regardless of the cause, lack of electricity at your facility can have disastrous consequences. During this practical workshop, you will learn what you can do, and should do, to make sure your facility will keep running even if the electricity to your facility doesn't.



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## **Course Synopsis**

There are NO SMALL PROBLEMS when it comes to the GENERATOR!! The Design, Construction, Operations, Safety, Testing, Inspection/Repair as well as disassembly/reassembly OUGHT to be fully understood by all those mandated to provide maintenance support of these critical facility equipment.

## **Course Objectives**

This course is intended to provide a theoretical overview of the operations and maintenance of a diesel generator.

## **Course Description**

This course is intended to provide in-depth skills operations and maintenance of a diesel generator. The course starts with an introduction to the operations and maintenance of a diesel engine, covering all aspects of a modern diesel engine and associated systems.

An indepth coverage of the Electrical systems associated with a diesel engine are then covered in detail including generator operations, generator components, excitation systems and voltage regulation.

## **Who Should Attend**

This is an excellent course for all employees and electrical practitioners involved in the operations and maintenance of diesel generators. This course would be of specific benefit to those who are involved in the use of diesels as emergency generators which would include most power stations, oil platforms and petrochemical plants.

## **Pre-Requisites**

All Attendees should have a sound power generation background.

## Course Outcome

This course is intended to provide a highly interactive practical learning of the operations and maintenance of a diesel generator



## Generators and Prime Movers

Day One introduces the basics of generators and prime movers including different types, electrical fundamentals, and typical systems.

- Overview: Generator Purpose, Operation and Control
- Types of Prime Movers
- Generator Basic Electrical Fundamentals
- Generator Types and Construction
- Grounding and Bonding of Generator Systems
- UPS System Fundamentals



## Protection and Transfer of Electrical Power

- Circuit Breakers
- Switchgear
- Transfer Switches
- Parallel Operation

## Generator and Engine Controls

- Governors
- Voltage Regulators
- Engine Protection for Generators
- Onsite Generator Controls including PLC's and SCADA Systems

## Auxiliary Systems I

- Fuel Systems
- Cooling Systems
- Exhaust Systems
- Vibration Attenuation
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## Auxiliary Systems II

- Sound Attenuation

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- Engine Starting Systems
- Load Banks
- Emissions Control



## Generator Applications

- Cogeneration Systems
- Emergency Power Systems
- Legally Required Standby Systems
- Optional Standby Systems

## Troubleshooting and Maintenance of Onsite Power Generation Systems

- Developing a Logical Systematic Approach to Troubleshooting Generators
- Common Generator Problems
- Recommended Generator Maintenance Practices
- Electrical Testing of Generator

## Generator Placement Site Survey

- Site Surveys
- Permitting
- Structural Foundations and Platforms
- Generator Delivery and precision placement
- Automatic and Manual Transfer Switch tie ins
- Factory Authorized Start Up and warranty registration

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## AC Output and Control (Generator)

- Operation
- Systems / Fault Diagnosis
- Load Banking
- Overloading
- Understanding Harmonics

## DC Output and Control (Diesel)

- Operation
- Systems / Fault Diagnosis
- Ignition / Fuel
- Can-Bus (ECU/ECM) operation

## AWARD

### TRAINEES TO BE AWARDED A

### PROFICIENCY CERTIFICATE IN DIESEL GENERATOR & EMERGENCY POWER SERVICING

From **Kenvision Techniks Institute**