



POWER QUALITY AND SYSTEM STABILITY

Course Title: Power Quality and System Stability Training

Course Delivery: On-Campus at Kafue Gorge Regional Training Centre

Dates: 11th to 13th October 2022



INTRODUCTION

The International Labour Organization (ILO), with funding provided by the Government of Sweden, is supporting the Kafue Gorge Regional Training Centre (KGRTC) to implement the Skills for Energy in Southern Africa (SESA) Project. This is a three-and-a-half-year intervention with the overall development objective of increasing the uptake of renewable energy, energy efficiency and regional energy integration through skills development in Zambia and the SADC region. It is expected that the project will strengthen KGRTC's capacity as a Centre of Excellence for energy training in the region and significantly increase the number of power technicians, engineers and managers that are skilled in renewable energy, energy efficiency and regional energy integration. The project will be implemented through a Public-Private Public Development Partnership (PPDP) approach.

COURSE OVERVIEW

This Power Quality and System Stability course is an introduction to the major concepts and issues in Power Quality Management and System Stability.

COURSE OUTCOMES

At the end of the training programme, course participants shall be able to:

1. Discuss the Components and Operations of a Power System;
2. Explain the importance of Power Quality;
3. Classify Power System Stability;
4. Mitigate and Monitor Power Quality;
5. Configure and set up Power Quality Analysers;
6. Mitigate Power System Disturbances and Blackouts

COURSE OUTLINE

Day One: General Theory and Introduction

1. Power Systems overview
 - a. Three Phase Concepts and Theory
 - b. Active and Reactive Power
 - c. Harmonics
 - d. Transmission and Distribution
 - e. Generation and Prime movers
 - f. Control
2. Power Quality and its importance
 - a. Power Quality Disturbances
 - b. Power Quality Consequences and Costs
3. Power System Stability classification
 - a. Frequency Stability – Causes and Consequences
 - b. Voltage Stability – Causes and Consequences
 - c. Angular Stability – Causes and Consequences

Day Two: Power Quality

1. Power Quality Mitigation Measures
2. Power Quality Monitoring
 - a. Power Quality Recorder
 - b. Guidelines For Power Quality Recorder Allotment
 - c. Financial Savings from Power Quality Measurements
3. Power Quality and Distributed Generation
4. Configuration and Set Up of Power Quality Analysers
5. Case Studies

Day Three: Power System Stability

1. Frequency stability
 - a. Power Balance
 - b. Control
 - c. Mitigation
2. Voltage Stability
 - a. Reactive Power
 - b. Control
3. Angular stability
 - a. Power System Stabilizers
 - b. Tuning and optimization
4. Power System Simulation – Grid codes
5. Power Plant Tests for Grid Stability
6. Case studies

PARTICIPANTS' PROFILE/TARGET GROUP

Managers and engineers responsible for power quality, power system stability and grid operation.

Delivery: The course will be facilitated by well-experienced specialists with extensive experience in power quality systems and power system stability from Unipower and Solvina of Sweden.

Course Fees: USD 300 per participant

Includes: Certificate of Competence upon successful completion of the course

APPLY NOW!

For enquiries and enrollment download our [Course Nomination Form](#) or go to:

<https://www.kgrtc.org.zm/course-application>

or call : +260 97 6668843

Email : frontdesk@kgrtc.org.zm

Scan to apply

