

**POWER QUALITY TRAINING COURSE & WORKSHOP**  
**Electrical Power Quality Issues for Power Utilities and Industrial Customers**  
**March 23-26, 2020**

### Summary

Electric utilities and end users of electric power are becoming increasingly concerned with the quality of electric power. The term “power quality” (PQ) has become one of the most widely used in the power industry since the late 1980s. It is an umbrella concept for a multitude of individual types of power system disturbances. The issues that fall under this umbrella are not necessarily new. What is new is that engineers are now attempting to deal with these issues using a system approach rather than handling them as individual problems.

Monitoring electrical quantities in various stressed areas in electrical transmission, distribution networks and load centers is a crucial task to ensure adequate and reliable operation of the networks and fast response in case of contingencies. PQ devices are usually deployed across electricity networks to measure and analyze the electrical quantities and perform certain advanced calculations based on standards for quality assessment. This course is intended to give a decent introduction to PQ in terms of parameters, indices, standards and mitigation solutions. It will include several case studies for practical applications.

### COURSE OUTLINE

The course includes the following:

- Understanding the reasons behind the consideration of the PQ, or the Quality of Supply
- Awareness of the international standards available and related to the PQ
- Understanding measurement classes
- An overview of the major PQ parameters and indices with their recommended calculation methods in the international standards.
- Overview of the available mitigation devices and solutions

### WHO SHOULD ATTEND

Engineers and researchers from utilities, facilities, load centers and academia who are dealing with electrical networks, electrical planning, electrical operation, electrical maintenance, automation, manufacturing processes, etc. in any sector shall benefit significantly from this course.

### LANGUAGE & LOCATION

The course material will be in English. Lectures will be held at the **Carlton al Moaibed - Hotel** (Address: Alqasim Alkharizmi St, Ar Rakah Ash Shamaliyah, Dammam 34225. (013)- 857 5455)

### CLASS SCHEDULE

Lectures are held from Monday 23 March 2020 to Wednesday 25 March 2020. A workshop on Thursday 26 March 2020 will run from 08:00 to 14:00, with prayers, lunch, and refreshment breaks

### ATTENDANCE CERTIFICATE

A certificate will be issued to each participant who attends at least 80% of lectures and practical sessions.

### INSTRUCTORS

High-caliber instructors from KACST, KFUPM and local industries will conduct the training course on Electrical Power Quality Issues for Power Utilities and Industrial Customers.

### COURSE FEE

The course is only for males. The fee is **SR6000** per participant (**including the workshop**), which must be paid in advance. The fee covers course notes, tuitions, refreshment and lunches. It shall be paid to

Gulf Laboratory for Electrical Equipment  
Bank Name: Samba Financial Group  
Bank Address: P.O. Box 833, King Abdulaziz Road, Riyadh 11421, Saudi Arabia  
Bank Account Number: 1901354  
IBAN: SA30 4000 0000 0000 0190 1354

For help contact Dr. Mahmoud Kassas  
Phone: +966508124254.  
Email: [PQC@gccelab.com](mailto:PQC@gccelab.com)

**Website:** [GCCLAB.com](http://GCCLAB.com)

### TRAVEL AND ACCOMMODATION

All participants are required to make their own travel and accommodation arrangements.

**AGENDA  
Power Quality Training**

**First Day, 23<sup>rd</sup> of March**

Time	Subject
09:00 – 10:30	Introduction to Power Quality
10:30 - 10:45	Coffee break
10:45 - 11:50	Major PQ Parameters and Indices
11:50 - 13:15	Prayer and Lunch
13:15 – 15:00	Operational Insights into Power Quality – (Real Cases)

**Second Day, 24<sup>th</sup> of March**

Time	Subject
09:00 – 10:30	Harmonics • Definitions, Overview and Background
10:30 - 10:45	Coffee break
10:45 - 11:50	• Harmonic Causes and Consequences, with Practical Cases
11:50 - 13:15	Prayer and Lunch
13:15 – 15:00	• Power Quality Equipment and Management

**Third Day, 25<sup>th</sup> of March**

Time	Subject
09:00 – 10:30	Voltage Quality • Definitions, Overview and Background • Events Propagation and Reporting
10:30 - 10:45	Coffee break
10:45 - 11:50	Electromagnetic Compatibility Concept (EMC)
11:50 - 13:15	Prayer and Lunch
13:15 – 15:00	Voltage Dips Analysis and Mitigation – Case Study

**Short Course Registration Form – Power Quality  
March 23-25, 2020**

First Name	
Last Name	
Company/Affiliation	
Address-1	
Address-2	
City	
Postal Code	
Phone (Mobile)	
Fax	
Email	

**Fourth Day: March 26, 2020 (8:00-14:00)**  
**Power Quality Workshop**  
Program will be announced later