



**Client : Electricity Distribution Company (EDCO)**

**Project: Power Monitoring System**

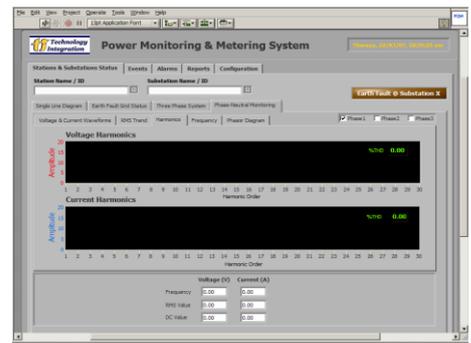
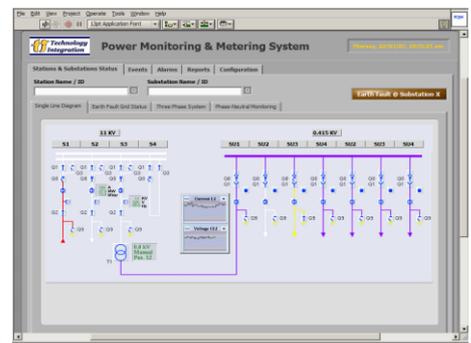
The Electricity Regulatory Commission (ERC) was established in 2001 under a government decree. This establishment was part of the government privatization plan.

Technology Integration and under the agreement with EDCO and the ERC, developed and installed a Power Quality Monitoring System at EDCO / Aqaba.

The system was developed on a combination PXI / SCXI system. PXI controller, embedded real-time operating system, with LabVIEW Real-Time was used to acquire waveforms at the substation location. While a server that was located at the central office was connected to PXI machine using industrial wireless Ethernet.

System was designed to meet the following requirements:

- High speed time logging
- Wireless, Ethernet connectivity with client/server architectures
- Data Acquisition, Data Analysis, and Data Presentation all in one platform
- Synchronized Measurements for electrical power voltages, currents, and digital switchgear
- Single line Diagram representation
- Power Quality Measurements including power factor, power metering, harmonic distortion, and transient events including sags, swells, and impulses
- Extensive graphical plotting capabilities including polar plots, time waveform plots, and statistics
- Alarming, Reports, and Data Management
- Sequence of Events Recorder
- Open and flexible approach, scalable to future systems
- Integrated platform based on commercial off-the-shelf tools



Following are the measurements realized at the substation:

- RMS Voltage and current
- Voltage Harmonics, and Total Harmonic Distortion.
- Apparent Power (VA), Active Power (Watt), Reactive Power (VAR)
- Power Factor and Power Factor Distortion
- Current Phase: Lead or Lag
- Voltage and current Waveform Chart



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- Phase Angle Polar Plot
- Voltage and current RMS Trend
- Transients Recording
- Earth Fault Indication
- Measurements based on Voltage & Current readings