

## Power Quality Audit

### Improving Efficiency & Saving Energy



The analysis of "Power Quality" evaluates the electrical energy going to equipment in the form that will allow the system to operate properly, efficiently and minimize long term risk to that equipment. The parameters of Power Quality include voltage, frequency and waveshape most generally in the form of a sine wave. Most computer equipment will operate within a certain tolerance curves. This study will verify if specific equipment tolerances, as specified by the manufacturer, and verify if the power quality is adequate for the equipment to run properly.

Troubleshooting power quality problems can be accomplished in many ways. One of the simplest methods is to start off by determining into which of four major categories a potential problem falls. These areas are 1) A grounding problem, 2) A transient problem, 3) A harmonics problem or 4) No power quality problem at all. Each of these studies, are listed within.

We can diagnose any of these problems to help you control and monitor these events. We can also design and install a permanent system that will send all of the data to a central computer within the facility. We can then provide consultation services when future problems arise.

### SUGGESTED SERVICES

- Temporary metering and monitoring of the electrical system to analyze power system disturbances and interruptions that will decrease productivity, reliability and efficiency. We can perform the tests for each floor in a building to detect harmonic issues, power quality and determine the load per floor. These tests can be done over time. It can be performed in a few hours or up to a few weeks, depending on the level of data detail required by the owner. Approximate meter cost is \$2,500 per point in the system to be metered. We will help to determine what is required to get the most data.
- Evaluation to identify and diagnose electrical system and equipment risks and procedures before they become costly problems.

### POWER QUALITY MONITORING & ON SITE MEASUREMENTS

- Power quality studies, harmonic analysis and harmonic filter design.
- Power quality metering and monitoring and on site measurements.
- Temporary and permanent power quality monitoring to facilitate problem solutions.
- Power monitors capture voltage and current harmonic distortion and disturbances that can adversely impact electronic equipment.
- Documenting and trending system performance to increase system reliability.

## About Us



Martin Technical provides practical services for making facilities better, safer and more efficient. Our expert staff combines their real world work experiences of the past with today's technologies and best practices to provide our customers with the solutions and knowledge they need to maximize their operations and keep safe doing it. And because all our experts have in-field experience, we understand the difference between theory and application and are able to translate today's complex problems into simple solutions that can be implemented tomorrow.

## About Our Customers

Our customers represent a broad spectrum, big and small, and we have provided services for virtually every type of company, plant or facility, including:

- Manufacturing Plants
- Schools & Universities
- Data & Service Centers
- Airports
- Government & Military
- Hospitals
- R&D Facilities
- Public Buildings
- Energy & Utility Plants
- Water & Waste Water
- Hotel & Hospitality
- Commercial Buildings

## Liability / Insurance

We carry the following insurance policies:

- General Liability - \$2 Million per occurrence / \$4 Million aggregate policy
- Professional Liability - \$1 Million policy

In addition, any outside engineers used on projects are required to have their own individual professional liability and general liability insurance.



## Products & Services

We specialize in making plants and facilities better, safer and more efficient by providing the following services and products:

### Electrical Studies & Testing

- Arc Flash Analysis & Labeling
- Short Circuit Study
- Protective Device & Coordination Study
- Power Quality Audit
- Motor Load Studies
- Infrared Inspection

### Electrical Safety

- Electrical Safety Program Development
- Electrical Safety Audit
- Electrical Safety Training
- Qualified Person / Electrical Worker Certification
- Lockout / Tagout Programs
- Infrared Inspections

### Energy Management

- Energy Audits
- Boiler, Compressor & HVAC Audits
- Energy Management Training

### Electrical Maintenance Training

- Electrical maintenance training topics are available through our training partners.