

PQAuditSM

*Helping you identify
and address power
quality and reliability
concerns before they
impact your facility's
performance and
bottom line*

The Need for Quality and Reliable Power

Today's Internet-driven and microprocessor-based economy relies on electric power to fuel its growth. Increasingly, power quality impacts the bottom line of commercial power users. In addition to IS/IT power needs requiring "six nines" or better reliability, industrial and other commercial facilities are using equipment that is highly sensitive to power system disturbances and reliability problems.

Electrotek Concepts[®], the world's leading power system engineering company, is ready to help you identify power system concerns and implement solutions that will improve your facility's performance and bottom line.

How Power Quality and System Reliability Can Impact You

The question "What is power quality?" has many different answers, depending on whether you talk to utilities, equipment manufacturers, or power customers. There is a wide range of factors that can cause power quality problems in your facility. Our experience has shown that power quality problems are compounded by the difficulty of identifying potential causes. This is primarily because the cause may be within your facility or hundreds of miles away on the utility power grid.

Power quality investigations focus on the cost impact of power problems. These can include

- Facility or equipment downtime
- Scrapping of products and raw materials
- Process or equipment restart
- Repair or replacement of damaged machines and equipment
- Operating at less than optimal efficiency
- Increased utility demand charges

Each problem can generate a number of these costs. Predicting the exact cost is difficult, but poor power quality and poor power system performance can cause sufficient losses to justify fixing the problem.

PQAudit – The Right Choice to Ensure Power System Reliability

Modern power systems are highly complex, and to ensure reliable performance, require consideration of all issues, probable problems and their causes, and potential solutions. Our over ten years of experience in power and distribution system studies, and our extensive track record in working with customers and their power providers to identify and solve power system problems, makes us the people to call. The PQAudit can address all aspects of power quality. It focuses on common issues such as harmonic distortion, low voltage, voltage sags, wiring and grounding, and poor power factor. By using the PQAudit, you can identify potential problems, plan and take corrective measures, and prevent facility downtime, saving both time and money.



The PQAudit assesses these problems...

- *Equipment failure*
- *Poor power factor*
- *Drives tripping off-line*
- *Transformer overheating*
- *Harmonic resonance/high distortion*
- *Unexplained breaker operations*
- *Misoperation due to utility faults*
- *Motor failures due to harmonics*

What You Get with a PQAudit

Preliminary review

Before performing an onsite survey, it is important to review your facility's power system performance. This preliminary analysis characterizes the problem, identifies important changes to the facility or to the electric supply system (equipment or wiring changes, modifications, etc.) that could be causing power quality problems, and helps determine a plan for the site survey. Consisting of a conference call, this preliminary review sets the stage for the site survey. Thanks to our expertise, we can sometimes diagnose current or potential problems at this stage, thus reducing the need for or scope of the onsite survey and helping to focus attention where it is most needed.

Site survey & field measurements

The site survey is designed to gather information about the facility, power quality problems, and affected equipment. Examples of questions asked and information gathered during this site visit include:

1. *What is the nature of the problem?*
2. *What are the characteristics of the sensitive equipment experiencing problems?*
3. *What are possible sources of power quality events within the facility?*
4. *Is power conditioning equipment being used and if so, what type?*
5. *How is your electrical system laid out?*

Field measurements are completed in conjunction with the onsite power system and equipment inspection. Example measurement quantities include dc drive line current, bus voltages, and harmonic distortion levels, as well as power factor. Standard reporting forms are used to document all information and measurements.

Technical report

Following the preliminary review and site visit, we will prepare a technical report summarizing the findings of the audit. This report will include a summary of all of the information gathered, highlighted power system problems, a summary of field measurements, suggested solutions, and recommendations for follow-on power system monitoring or engineering analysis. This report introduces you to the scope and nature of any problems, and provides an excellent foundation for more analysis and effective power system design.

All at a Reasonable Cost

You get the entire PQAudit package at a reasonable fixed price – no open-ended cost as with other professional services. Additional analytical or engineering services are available on a quotation basis.

For More Information

For additional information or to schedule a PQAudit, please call 800-372-6832 (US and Canada only) or send e-mail to info@electrotek.com.



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