



Power Quality Solutions

GGG POWER QUALITY PROCESS

- ▶ **One Line Diagrams**
Are required to document the existing power system in the plant prior to the beginning of the study. If one line drawings do not exist they will be created as they serve as the underlying foundation of the process.
- ▶ **Identification of Process Failures**
Processes or control system components which are affected are documented. Manufacturer specified power specifications are collected for the affected equipment. Economic Costs and losses associated with these shutdowns is quantified.
- ▶ **On Site Data Collection and Testing**
Initially Monitoring equipment is installed on incoming utility power feeders. Next downstream monitoring is put into place if it is determined that the power disturbances are internally generated. Additionally if applicable the power system grounds are tested for conductivity.
- ▶ **Data Analysis**
Actual data collected is analyzed using power system modeling tools. Based on the equipment data and power system data collected potential solutions are evaluated.
- ▶ **Reporting**
A report is produced based on actual quantitative data collected and equipment specifications. Recommendations and mitigation techniques are enumerated and explained in the report. Estimates of solution costs and next steps are provided.
- ▶ **Implementation**
GGG can provide a complete range of implementation services from detailed engineering through turn key project implementation.
- ▶ **Confirmation**
Once implementation is completed GGS will assist the customer to confirm that the Power Quality issues have been eliminated.

Power quality is a term used to describe several characteristics of electrical power purchased from a serving utility. Due to the higher per-unit costs in purchasing a higher quality electrical power, the most cost effective solution is the one that finds the intersecting point of the cost and quality curves.

When to call Glenmount Global Solutions

- ▶ Unexplained process shutdowns cause off-quality, scrap product, or safety concerns
- ▶ High rates of sensitive electronic equipment failing or burning out

Why Glenmount Global Solutions?

Power quality solutions encompass several different facets: Grounding, Reliability, and Regulation. Because these facets overlap and are interrelated, it is important to view power quality as a holistic system solution. The power quality industry is full of hardware suppliers with vested interest in a particular solution that is likely not ideal or even appropriate to solving your problem. With no such encumbrances, Glenmount Global Solutions (GGG) pursues the most holistic, technically applicable and cost effective solutions for our customers.

Power Quality Issues

Often power quality problems are hidden or have existed in a facility for so long they are accepted as just "a cost of doing business." Power quality problems can originate externally from the serving utility or internal to your facility. With external issues, utilities are often reluctant to make changes to their distribution system for individual customers, forcing the end users to take steps to protect their own facilities. Internally, issues can arise from under-engineered, poorly designed additions; haphazard modifications; or improperly installed grounding systems. Modern industrial operations can be more susceptible to sudden operations shutdowns caused by persistent pre-existing power quality problems. The lower voltage requirements of modern electronics equipment causes the effects of voltage sags more pronounced and the equipment more sensitive.

Power Quality Benefits

- ▶ Improved Equipment Uptime, reduction of scrap and off-quality product through the preventing unscheduled equipment stoppages. This benefit is amplified by the fact that a single power quality issue can affect full facilities or multiple process lines.
- ▶ Elimination of safety issues during a power loss. For example, the risk of fire due to products remaining inside an oven too long after a transport conveyor shutdown.
- ▶ Reduction of maintenance costs through reduction in line shutdown and increase of the lifespan of electronic devices.
- ▶ An accurately documented power system. The one line diagram developed through this process is fundamental for other power initiatives a customer may undertake with GGS. These include Protective Device Coordination Studies, Arc Flash Studies, Short Circuit Studies, Power Usage Monitoring, Preventive Maintenance, and Energy Conservation efforts.