

Toxicology Testing Labs Already Feeling Holiday Crunch

PPI laboratory instrumentation power protection systems deliver smooth, conditioned power to protect your sensitive analytical instrumentation 24/7



As a global supplier of energy and power quality products, Precision Power International (PPI) helps laboratories protect their sensitive and costly instrumentation and equipment to create energy efficiencies. Precision Power International has over 35 years experience in clinical, biotechnology, pharmaceutical, and scientific research instrumentation development meeting 21 CFR (Code of Federal Regulation) Part 860, FDA section 510 (k) (CDRH medical devices), and 21 CFR part 11 (electronic records reporting) regulations. Our instrument power protection systems (IPPS) and "smart reporting" technology assure constant monitoring and reporting of electrical power providing the basis for managing all critical utilities. Management of critical utilities

With retailers cautious about contaminated products produced here and overseas, toxicology testing laboratories are working at maximum capacity to ensure that children's products and decorations are safe and on the shelves in time for the holidays.

While many of us are enjoying the summer weather and the relaxation it brings, toxicology laboratories involved in 'Children's Product Safety Testing' are already feeling the pressure of increased demand due to recent overseas contaminations resulting in mass recalls and public concerns over the safety of children's products produced domestically and overseas.

With a shaky economy, U.S. retailers need to ensure that children's products and holiday decorations are not only on the shelves by late-fall, but that each of these products meet the requirements of the U.S. Consumer Product Safety Improvement Act of 2008 (CPSIA), the American Society for Testing of Materials (ASTM) F958-08, the European Union EN71-4, and International Standard Organization ISO 1824.

The last thing an importer or manufacturer wants to hear from the Federal Government is that its products are the subjects of a recall due to a violation of safety standards.

To meet this increased demand, toxicology labs need four key elements to assure compliance with the higher level of standards:

- Dedicated trained staff
- The right suite of test/analysis instrumentation, including automated sample preparation and information management
- Appropriate accuracy and sensitivity of the instrumentation
- Stability of the lab instrumentation, supporting specimen handling and storage equipment, informatics and data storage

The right cost of ownership for the lab includes the correct mix of human, automation, and information processing resources to produce an economical reportable result while operating in a harmonious and timely manner. A cut back in any of the areas above has a negative impact on the lab's bottom line (revenue generator) or the cost to operate the lab (cost center).

The last of the four elements requires that all critical utilities within the lab are stable, including the electrical power. Above all, the lab manager needs to assure that the electrical energy powering the lab

is fundamental to meeting 21 CFR part 11 requirements. Additionally, Precision Power International's IPPS laboratory power solution (LPS) products form a power bridge that safeguards the GxP organization against lost personnel productivity, adulterated test results, and instrument damage.

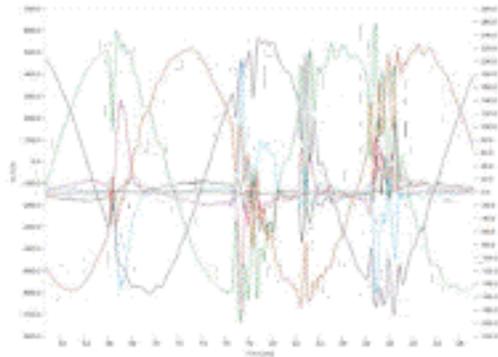


"At PPI, our power protection application engineers have the right IPPS calibrated and certified to each of your laboratory instruments," says Ray Hecker, COO and company principal.

"We are here to answer your questions and apply the perfect power and backup solution to meet all of your requirements."

meets instrumentation grade requirements while remaining highly reliable with consistent fidelity to a true sinusoidal waveform (voltage, frequency and harmonic fidelity).

Instrument-grade power is similar conceptually to Type I water quality requirements for DI ultra pure reagent grade water meeting CLRW, CAP/CLSI and USP/NF specifications. Consistent power quality, true sinusoidal waveform, with minimal (2% or less) harmonic waveform distortion (harmonic fidelity), and availability during peak demands are the most difficult to achieve without power mitigation and regeneration equivalent to CLRW distillation.



As the figure above illustrates, typical electrical power, examined in millisecond (ms) intervals, is not delivered as a clean sinusoidal wave. These seemingly small fluctuations are acceptable for lighting but have extreme consequences on highly sensitive laboratory instrumentation. High or low line voltage, irregular impulses, surges, momentary brownouts, and other typical power anomalies can cause overheating and component failure. Transients of just microseconds in duration can cause instrumentation to produce inconsistent results and shorten the life of the instrument. At worst, this unconditioned power can cause complete system failure.

One of the benefits of the digital age is that we can process tremendous amounts of information in fractions of a second. The downside of the phenomenal speed of digital processing is that the feedback from all of the digital users adulterates and pollutes the electrical power waveform feeding the instrumentation and equipment the lab. With a mismatch in resources, including an instrumentation system that spuriously fails, the cost to produce reportable results escalates, while the clock ticks to produce and report viable test results.

To balance this operational predicament, toxicology lab managers are considering the "microenvironment" when meeting the projected workload for high testing levels, especially those affecting human health and product safety. The microenvironment includes correcting the incoming power as part of the critical utilities management plan.

Only by focusing on all critical utilities (including electric power) will the toxicology labs be able to keep up with demand and meet the higher level of product safety standards to ensure that all products sold this holiday season are safe for our children.



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