

## Manage Laboratory Fundamentals for Greener Results

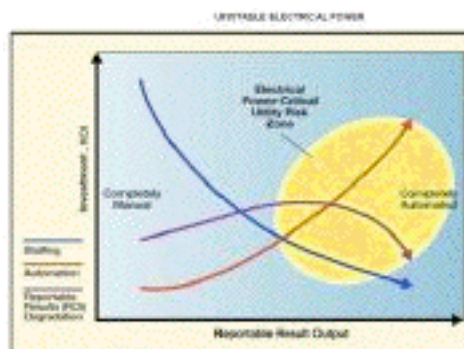
**PPI laboratory instrumentation power protection systems deliver smooth, conditioned power to protect your sensitive analytical instrumentation 24/7**



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

*Paying attention to the details of your lab's operations not only protects your bottom line but also aids national environmental efforts by managing the fundamentals.*

The reason for the green lab emphasis is simple - laboratories use more energy and water per square foot than the typical office building due to intensive ventilation requirements and other health and safety concerns.



This is why the U.S. Environmental Protection Agency (EPA), in conjunction with the Department of Energy (DOE), created the 'Green Awareness' 21<sup>st</sup> Century Laboratory Initiative, a voluntary initiative aimed to improve laboratory energy and water efficiency, encourage the use of renewable energy sources, and promote environmental stewardship in U.S. laboratories.

**But, going 'green' is easier said than done for most laboratory managers.**

The real challenge is to realize a total cost savings while going green, and continuing to operate within existing budgetary constraints. If we start from scratch, we can create state-of-the-art laboratories that are marvels of efficiency with a minimal environmental footprint from the start. **The reality is that most lab operators have fixed**

"smart reporting" technology assure constant monitoring and reporting of electrical power providing the basis for managing all critical utilities. Management of critical utilities 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."

**instrumentation and equipment asset bases set within an existing laboratory design, and a limited budget for personnel, equipment, and facilities.** With the operational constraints an already existing lab faces, cost savings will be realized by those managers who look at the total cost of operation and seek to reduce that cost while improving performance.

The real question becomes: **how can we go green with existing equipment and instrumentation?** The answer is equally simple:

- **Maintain the instrumentation**
- **Optimize its utilization**
- **Provide it with energy that is reliable**

The third element, reliable energy, is the least obvious but is critically important. **An instrument system that is provided with improperly conditioned power cannot operate per specification and will experience higher than normal operational problems and failure rates.** The cause is often attributed to system error and, only belatedly, is it understood that the root causes were micro-instabilities coming in from the power panel.

Today's laboratories are highly automated in order to maximize throughput, improve qualitative results, and increase profits and/or preserve budget. Instrument downtime profoundly impacts throughput, personnel and operating expenses, defeating the mission objectives – low cost reportable results in a timely manner.

The most overlooked area in laboratory operational effectiveness and management is the quality of the energy that is driving all of the processes and instrumentation. An improvement in energy effectiveness is green to the lab in two ways:

- 1) it reduces the impact on the environment to produce the electrical power consumed by the laboratory and
- 2) the direct cost savings to the laboratory means expense or capital budget reserves.

So, how can a laboratory prevent down time due to electrical energy (power quality) issues? The good news is that the answer is not complex or costly. If you consider electricity as a "critical utility" as is typically done for water (USP reagent grade), and install certified instrument power protection systems (IPPS) for your critical instrumentation and equipment, you will realize a substantial cost savings in overall laboratory operation. At the same time, you will deliver "green" to the bottom line, as well as improve your lab's energy efficiency, thereby aiding environmental protection efforts. Paying attention to the details protects your bottom line and the environment by managing the fundamentals.



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