Focusing on Power Quality Can Reduce Downtime 20 Percent

The US Pharmaceutical Industry is one of the country's largest industries, accounting for over 4.7 million mostly skilled labor workers who directly and indirectly support the industry. According to the Pharmaceutical Research Manufacturing Association, the US accounts for over half of the world's research and development ($75 Billion in 2017), and US firms hold over half of the world's IP rights for most new medicines. So, helping pharmaceutical manufacturing remain competitive is good for today's business and our future prosperity.

Manufacturing consumes approximately 30 percent of the nation's energy. Pharmaceutical manufacturers - whether delivering consumer, pharmaceutical, medical devices or other products - are large energy consumers whose processes depend on consistent, reliable, high quality power.

Solutions focused on improving power quality result in cost reductions, increased efficiency, and an elimination of an estimated 20 percent of costly plant disruptions. These same disruptions also trigger additional regulatory, reporting, compliance and product delivery challenges that would be eliminated if the disruption itself is avoided. (Source: Rockwell Automation).

Industry experts estimate the Total Downtime Cost (TDC) of a production disruption in pharmaceutical manufacturing to be quite high - costing $100K to $500K per hour of downtime. ***Pharmaceutical manufacturers experience an average of 6-8 disruptions per year, often caused by voltage sags. And, industry experts estimate 30-70 percent of disruptions are caused by poor power quality.***

Reducing disruptions and improving power quality used by pharmaceutical manufacturers can have a substantial impact to operations and profitability. (Source: Rockwell Automation).

But, today, most pharmaceutical manufacturers do not measure and monitor power quality consistently, in real-time, across their plant and enterprise. Although cost-effective, scalable and secure solutions exist, and the economic benefits are clear.

Poor power can have a significant negative impact in the mixing, processing, and packaging processes used within the industry - adding potential consequence to quality, scheduling, and adherence to regulation in addition to costs associated with production disruption.

For example, voltage sags can impact chillers, mixers, dichrofarel coaters, compressors, and air handlers with substantial challenge and impact to the actual chemical compounding of the product - leading to production disruptions, high amounts of scrap, quality related issues, product rework and customer service issues due to the high preponderance of JIT. A failed compressor due to a power related event can result in production stoppage with severe product impact due to lack of air or refrigeration.

Power quality events can cause loss of critical data necessary for FDA reporting (such as temperature data possibly compromised when a compressor fails) unless poor power quality is remediated. Protecting valuable IP in addition to retention of data to ensure regulatory compliance dictate that all players throughout the supply chain be aware of and put into practice broad and appropriate security safeguards.

Like most manufacturing, the pharmaceutical industry is faced with reductions in technical staff and shortages of skilled resources capable of delivering alone these complex solutions. Focus on power quality solutions require collaboration across operations, OEMs and solutions providers with delivered and repeatable bottom line impact. Fortunately, solutions exist today.

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