Case Study 2000

Backup Power for Pleasant Grove City Water Pumps

The Customer

Pleasant Grove, Utah's City of Trees, is home to over 30,000 residents. The city's Public Works - or Water & Sewer Division's main focus is to ensure that residents' water needs are met in their homes. Currently, there are thirteen culinary water pumps, nine water tanks, and ten wells that supply Pleasant Grove with water.

The Challenge

In the event of a power outage, Pleasant Grove City is left with no water pumping capability. When power outages occur, the city administrator's first worry is the city's water supply. The water pumps shut down completely, forcing the city to rely solely on water already stored in the tanks. The water is not being continuously recycled. At this point, public safety becomes an issue, with the possibility of contaminated water and no water for fire protection.

The Solution

In pursuit of a solution, Pleasant Grove City invited Power Innovations to measure the power used by the water pumps and to assess what needs to take place in order to resolve these concerns. The solution is that Pleasant Grove's water pumps need to have backup power. Two possible solutions were identified, having a mobile power trailer or placing permanent power generators at each pump site.

Mobile Power Trailer

The city can purchase an Uninterruptible Power Quality™ (UPQ™) mobile power trailer capable of running one or more water pumps. A trailer carrying 500 kW of power has the capability of running Pleasant Grove's largest pump, or a combination of the smaller pumps. An advantage of the mobile power trailer is that it can be utilized in other emergency situations, when it is not needed to provide power for the water pumps.

Permanent Generators

Another solution would be to place permanent power generators at each pump site. This solution would be more costly, because one power generator would be dedicated to each pump site, requiring multiple generators for the multiple pump sites. Also, these generators could not be used for other emergencies; whereas, the mobile power trailer could. One advantage of permanent generators is that the city would have the fixed security of knowing that, in the event of a power outage, the pumps would continue to run independently at multiple stations.

Conclusions

" As a city, we strive to ensure that our residents have what they need, when they need it. We want to prevent a situation of our residents not being able to access water or have fire protection. We are thrilled with the options that Power Innovations provides to avert this situation," says Tom Paul, Chief of Police for the Pleasant Grove Police Department.

Pleasant Grove City

INDUSTRY SERVED

Government

CHALLENGE

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SOLUTION

Pleasant Grove's water pumps need to have backup power.

- **Mobile Power Trailer**
- **Permanent Generators**

Power: The Critical Need

In the corporate world, as well as in the consumer community, predictable, pure electric power is a necessity. Current utility power is not reliable and sometimes not present. Without clean, consistent power, today's technologies cannot function properly, and operations and service are compromised or cease.

Fluctuations in power supply – spikes, dips, brownouts, noise, and frequency variations – can all lead to a crippling loss of data resources. The effects of these problems range from erratic operation through hardware damage to irreversible losses of mission-critical data and operations.

Competing Technology

In the past, the number one issue in dealing with power was backup power for equipment in the event of power failure. The basis of typical UPS systems and generators on the market today is still backup power; however, electrical equipment requires a new level of power quality and management tools that extend and enhance this most critical resource.

Power Innovations

Launched in 1997, Power Innovations has pioneered a revolutionary set of solutions to generate, store, and manage AC power. Power Innovations' mission is to provide and manage continuous high-quality power in conjunction with, or even independent of, utility services worldwide. Power Innovations is helping forward-thinking companies accomplish this goal through a new class of technology called Uninterruptible Power Quality™ (UPQ™).

Today, Power Innovations' UPQ systems, coupled with its UPQnet-agent II™ IP management tools, assist organizations of every size in addressing the key issues surrounding power management.

Power Innovations' long term strategy includes fully integrated power management and control, storage, and generation for total power independence. Power Innovations' line of power management products is currently being marketed. The company is involved in the development of a spectrum of solutions for power storage. Currently Power Innovations offers a variety of alternative generation options. In the near future, Power Innovations plans to introduce the PowerWell™, a revolutionary solution to provide green renewable energy generation for homes and business, with or without grid interaction.

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- Tom Paul
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