



Power Innovations
INTERNATIONAL, INC.



Case Study 1903

PathFinder Receives Power Quality for its Logging-While-Drilling (LWD) Services

The Customer

PathFinder Energy Services' core business lies in logging-while-drilling (LWD) and measurement-while-drilling (MWD) services. PathFinder is one of a few companies worldwide that currently has the technology capability to offer a full complement of logging-while-drilling products and services.

Before the introduction of LWD technology, data was obtained only after the well had been drilled or during the drilling process, if the drilling was halted and the drill string was removed from the well. With logging-while-drilling costs are reduced, and the technology uses real-time formation information to assist in immediate decision making.

The Challenge

Power quality, durability (certified rugged), serviceability, and price are all critical factors in the LWD industry. Data retrieved are critical. Providing real-time data gives the engineers the ability to drill safely, efficiently, and with precision. Constant, reliable power for the LWD system and other drilling equipment is critical. A power failure may result in the loss of valuable data, costing days of drilling time, and resulting in millions of dollars lost daily.

Hostile environmental conditions often exist in the well, contributing to the difficulty in acquiring the downhole data. The drilling tools and LWD system are fed down and through the well, subjecting them to high shock and vibration. In spite of these conditions, the cost of drilling compels customers to demand high standards of service with little down time from equipment failure. Meeting these specifications requires the integration of highly trained personnel and advanced technology.

The Solution

In pursuit of a constant, reliable power source, PathFinder turned to Power Innovations. Customized Q-RX™ (rugged) Uninterruptible Power Quality™ (UPQ™) systems meet the critical needs for LWD. The rugged systems withstand extreme shock and vibration, meeting LWD standards. The Q-RX Series exceeds the unique rugged environment specifications in shock, vibration, temperature, and humidity standards.

Advantages of the Q-RX Series

Vibration and Shock Testing

MIL-STD-167 (Mechanical Vibrations for On-Ship Board Systems) – Q-RX systems meet or exceed this vibration standard from 4 to 50 Hz. The operational and non-operational vibration tests deliver up to 2g forces for two to four hours.

PathFinder

INDUSTRY SERVED

Oil Exploration and Research

CHALLENGE

Constant, reliable power for the LWD system and other drilling equipment is critical. A power failure may result in the loss of valuable data.

SOLUTION

The Q-RX™ (rugged) UPQ™ system meets the critical needs for LWD, being able to withstand extreme shock, vibration, temperature, and humidity.

ADVANTAGES

- MIL-STD-167 -- Vibration Standards
- MIL-STD 810E - Shock Standards
- MIL-STD 810 -- Thermal and Humidity Standards
- Rugged Certified

MIL-STD-810E (Environmental Test Methods and Engineering Guidelines) – Q-RX systems meet or exceed this shock standard. In each axis, multiple positive and negative shocks are induced up to 30g forces for levels ranging from 2g to 30g.

Thermal and Humidity Testing

MIL-STD-810 – Q-RX systems meet or exceed this environmental standard. The systems operate in freezing temperatures of 22° F (-30°C), sweltering temperatures up to 140° F (60° C), and even in condensing humidity.

As part of the qualification process, the Q-RX system was run through shock and vibration testing. The units are approved for durability in the rugged environments where Pathfinder operates.

Conclusions

“PathFinder now has the assurance of knowing that its logging-while-drilling services and equipment will run constantly, powered by Power Innovations’ Q-RX systems,” says Mark Beattie Senior Project Manager of Pathfinder.

Without pure, clean, reliable power, the ability for sensitive equipment to perform up to stringent exploration standards is, at best, severely impaired. This precision equipment needs the perfect quality power supplied by Power Innovations Int'l UPQ systems to accurately perform its functions.

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.

“PathFinder now has the assurance of knowing that its logging-while-drilling services and equipment will run constantly, powered by Power Innovations’ Q-RX systems.”

- Mark Beattie
Senior Project Manager
Pathfinder



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