

CCW Energy Systems helps increase oilfield profits

At least 15% savings on electrical bills

Application Note

Testing Functions Case Study



Challenge

An essential part of CCW Energy Systems' selling proposition is the energy savings it can deliver to oil field operations. An essential part of working with customers is proving the bottom line value its technology can bring to their operations.

Solution

CCW relies on the Fluke 435 II Power Quality and Energy Analyzer to perform its energy assessments before and after installation. The energy loss calculator feature allows CCW to quantify measurements to pinpoint the fiscal costs of energy loss.

"With the Fluke 435 Series II energy loss calculator, we can instantly show them how many dollars a month they are losing because of inefficiencies within the system."

Tools: Fluke 435 Series II Power Quality and Energy Analyzer

Operator: Ron Henderson, Executive Manager, Regulatory and Projects, CCW Energy Systems, energy efficiency consultants

Applications: Energy efficient motor drive systems for oil and gas

Energy consumption is a major factor in oil field production. CCW has found that, depending on the technologies being used, **electricity can account for up to 50% of operational costs.** CCW Energy Systems has been on a mission to help oil field producers reduce energy consumption and costs through its energy-efficient motor technology. A starting point in their conversations with customers is an energy assessment and audit using the Fluke 435 II Power Quality and Energy Analyzer.

About CCW Energy Systems

CCW Energy Systems is a leading designer and producer of energy saving regenerative motor drive systems for the oil, civil and manufacturing industries. It provides custom designed power

generation and other motor controls as well as other components for oil field operations throughout North America and the middle-east. As an industry leader, CCW has the distinction of producing the world's first patented green energy, low harmonic distortion, UL 1741 certified regenerative motor drive system manufactured specifically for oil field pumpjack and beam pump applications. CCW also provides a range of consulting services to help customers minimize power consumption and maximize electricity credits and incentives from local utilities, while ensuring near zero harmonic distortion.

Measuring up for savings

According to Ron Henderson, Executive Manager, Regulatory and Projects for CCW, their mission is to help oil producers save production costs while

maximizing electricity credits with their utilities. As with any conversation of that nature, customers demand proof; and the Fluke 435 II is an essential part of presenting their business case.

The Fluke 435 II offers both advanced power quality functions and energy monetization capabilities. Of particular interest to the CCW team was the energy loss calculator feature, which quantifies active and reactive power measurements, phase unbalance and harmonic distortion, to pinpoint the fiscal costs of energy loss.

"We bought them shortly after the instantaneous calculation feature became available," says David Melligan, Sales Manager for CCW. With this feature, a technician can easily calculate the fiscal cost of energy waste due to poor power quality, and quantify before-and after-installation improvements in energy consumption.

The testing process is straightforward. The technician simply hooks the analyzer up to the system and waits 10 to 15 minutes for the results. "In that space of time you can get 90% of the data you need and get a very quick snapshot of the monetary value for the energy a customer may be losing on the system," Henderson says.

With the data collected, CCW is then able to engage in economic modeling to demonstrate the financial payback of installing energy-efficient solutions.

Readings are also made after an installation in order to verify results. "First we show them the harmonics and then do the test again once the new equipment is in place," Henderson explains. **"The information spells out for them the changes in the power quality and how maximizing efficient electricity usage puts more money back into their pockets."**

Paying it forward

Since many oil field operations return excess power to the grid for credit, there is also a great deal of concern over power quality and harmonics. "They want to be sure that what they're putting back on the grid is meeting the requirements for utility-grade interconnections," Henderson says.

The Fluke 435 II also provides data on harmonics and power factor to ensure they are meeting those requirements and maximizing their energy efficiency. "Everybody we deal with wants proof," he adds. "With the Fluke 435 power energy/loss calculator, we can instantly show them how many dollars a month they are losing because of inefficiencies within the system."

When it comes to energy-efficient operations, the compensation from the utility is icing on the cake, Melligan says. "The higher the power factor and lower the harmonics, the greater the credit."

Playing it by the numbers

CCW has helped oil field operations realize significant savings in a number of places. Demand has been reduced by up to 70 %, and consumption reduced up to 30%. In some cases, the generation of power being sold back to the grid has exceeded 25 %.

"All those pieces form the charge on a utility bill," Melligan says. "Sometimes the price of power getting back on the grid is the same as what they paid for it."

The amount of savings varies depending on the size of the pumping equipment, and the physical properties of the down-hole. Whatever the parameters, there is always a savings, he says. **"We can guarantee at minimum an 15 % reduction on their electrical bill."**

As CCW continues to push its global expansion efforts, Fluke equipment will continue to play an important role in supporting its selling proposition, Melligan says. **"When we use Fluke meters, Utilities know that data will be reliable. The quality of the data clearly shows what we are doing for our oil field customers. Operators and Utilities always know and trust the level of accuracy that Fluke products offer."**

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