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## Blog



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# Wireless tracking steers utilities' fleet and fuel management on the road to improved productivity

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Utility fleet managers have been more reluctant than their counterparts in other industries to adopt telematic and wireless technology to manage large fleets. But pending environmental incentives and surrounding economic difficulties coupled with an increasing need to improve efficiency from vehicle fleets and advances in wireless network options are expected to accelerate productivity gains in fleet and fuel management in 2009.

In the area of industrial fleet management, increases in wireless network coverage and security, more robust sensing and telematics hardware, and simpler and more powerful reporting and decision-support applications have enabled the adoption of cost-saving fleet maintenance procedures, improved field service employee productivity and reduced emergency response time. Utilities, however, have lagged their industry counterparts in the adoption of advanced wireless fleet management. In fact, a 2008 industry survey shows adoption of GPS fleet tracking among utilities as low as 15%, half that of other industries.

Bucking the trend, an innovative Atlanta-based company, PS Energy, is deploying wireless network, Advanced Vehicle Location (AVL), and Global Position System (GPS) technology to bring additional efficiency to utility fleet managers – through a combination of fleet and advanced fuel management. According to Ed Dort, PS Energy's director of wireless operations, we may be on the verge of more widespread adoption of telematic and GPS-based fuel management.

PS Energy offers complete fuel and energy management solutions to help companies maximize the value of their fuel assets. The company has been using wireless technology for its fuel management solution **ETRAC™** since 2001 to monitor its fixed and mobile customer assets. Wireless remote monitoring of both above-ground and in-ground fuel tanks provide utility customers with the data they need to manage on-site inventory as well as retail dispensed fuel, enabling them to make better fuel purchase decisions, avoid dispatching fuel trucks to top off tanks unnecessarily and better manage fuel supplies during emergency situations.

PS Energy has also adopted wireless telematics and AVL/GPS technology to bring the advantages of advanced fuel management to utility vehicle fleet managers. Given environmental mandates surrounding reduction in greenhouse gases and continued volatile oil pricing, fuel management has become a priority for cost reduction.

According to Dort, last summer's spike in fuel costs, which pushed gasoline and diesel fuel over \$4.00 per gallon, is still in the minds of utility executives as they look for new ways to reduce costs. "The fleet managers we work with vividly remember the fuel crisis we experienced in 2008. They all expect fuel costs to rise again, and are aggressively managing the bottom line, searching for ways to cut costs. And for most, fuel represents the single biggest expense item beyond the actual cost of fleet vehicles."

While PS Energy can provide a complete workforce and vehicle location tracking solution, fuel management for cost savings and environmental benefit is their key value offering to the utility industry. "We're not just getting GPS data to track vehicle location for mapping or geofence violations, we're cross-referencing GPS location and vehicle performance data with fuel purchase information to track the fuel from the tank through utilization, to give the fleet manager a true picture of fuel usage and how to reduce cost", said Dort. "We can, for example, provide them with accurate reporting on the impact of anti-idling initiatives, help them optimize vehicle routing to reduce miles driven and fuel consumption, document fleet routing and off-road vehicle use for fuel tax incentive validation, and deliver detailed analysis of vehicle fuel usage to facilitate better fuel purchase decisions." Analyst data supports PS Energy's cost saving benefit, with utility fleet managers claiming they had saved upwards of \$1,000 per vehicle through the adoption of GPS-based fleet management systems.

### **Going green**

Most recently, PS Energy has begun a program to help utilities address an increasing concern and potential source of additional cost reduction – through the reduction of greenhouse gases consumed by utility fleets.

“With the new administration in Washington and the increased priority around reducing carbon emissions, we can expect significant tax incentives for fleets that reduce their production of greenhouse gases,” Dort explains. “With the potential of reducing CO2 production by 20-25 lbs. per gallon of fuel not burned, the impact on especially a large utility fleet of hundreds of vehicles is substantial. The biggest challenge for fleet managers is documenting and proving that reduction. Wireless technology enables us to do that.”

For example, utilities may consider implementing an anti-idle initiative that leverages hybrid engines, remote shut-off systems or employee incentives to optimize the fuel consumption since 50% of the time vehicles are in the field but not being driven. PS Energy’s solution can provide a fleet manager baseline information on fuel used per day, miles actually driven and miles per gallon before beginning this type of program so that documented reductions can be validated.

### **Reliable and secure wireless network the key to advanced fuel management**

To deliver a wireless tracking solution that delivered the level of performance utility fleet managers need, PS Energy knew they needed to start with a reliable and secure network and a provider that understood the business challenges of the utility industry. For that they turned to Numerex, an Atlanta single-source provider of secure solutions and network services for M2M applications.

“The most important element of this type of solution, said Dort, “is having a 24/7 reliable network. When something isn’t working, the customer typically blames the wireless network first, regardless if the fault is in the network or actually in the hardware being used. Starting with a reliable network provider is most important.”

After looking at a number of network provider options, PS Energy selected Numerex based on their reliability, enterprise focus and ability to deliver a complete turnkey solution that could be integrated into PS Energy’s fuel management system. “Our customers want a turnkey solution from us”, said Dort. “They want one stop shopping. In turn, we rely on Numerex to have done the due diligence on the telematics hardware so that they can recommend a complete solution we can take to our customer.”

Dort explained that having a Machine-to-Machine (M2M)-focused network partner who understands the needs and challenges of the enterprise user while offering a field-tested end-to-end system is critical. This all-around capability addresses a major objection that he believes has slowed the adoption of wireless telematics for fleet and fuel management within the utility industry i.e., the lack of hardware standards.

Integrating tracking and vehicle monitoring technology into fleets comprised of vehicles from multiple manufacturers with multiple proprietary on-board computer standards – or none at all can create a significant challenge for fleet managers looking to gain cost advantage through better vehicle monitoring and fuel management. “The typical utility fleet has at least five different types of vehicles,” says Dort. “Integrating any type of technology fleet-wide is difficult given the lack of standards. If everyone adopted an open architecture for data transfer, the overall adoption rate would be much higher. But that doesn’t exist at this

time.”

Another key requirement PS Energy has addressed through Numerex is the area of network and data security. Data security across the wireless network is a requirement for all of PS Energy’s customers and one that Dort knows can’t be compromised. With utilities facing significantly more rigorous requirements for protecting all parts of power generation, transmission and distribution operations, integrity of the wireless backbone that facilitates tracking and monitoring of fleet and fuel vehicles receives additional scrutiny.

In this area, Numerex has a unique emphasis on data protection, following an ISO-sanctioned systematic approach to enterprise management of sensitive company information, whether its own or its customers’, which encompasses people, processes, technology, network operations and information systems. Numerex is the first North American M2M vendor to receive the international ISO/IEC 27001:2005 certification, ISO’s highest information security standard.

### **Where to Start**

Implementing the appropriate long-term strategy for fleet and fuel management that will meet both immediate efficiency mandates as well as long-term strategic service and clean power objectives requires careful planning to avoid making technology investments that fail to pay off. PS Energy’s Wireless Director believes the basic considerations for a fleet manager include the following:

**1. Need to identify near term savings and determine how scalable the program can be.** For example, fleet managers may consider starting with a program addressing anti-idling to reduce fuel use. Then, they may want to add tire pressure monitoring to achieve more efficiency. As a result, they may see 3-5 percent fuel savings. The important thing, according to Dort, is to do this in stages because you won’t be able to get all the functionality implemented at once given the inherent complexity and the number of stakeholders who will want to see the data.

**2. Select a vendor that understands utility operations and can adapt to change easily.** For example, since the PS Energy ETRACtm system is web-based, it can change over time and provide fleet managers the three to five year solution timeframe they desire. In order to meet changing needs safely, the selected solution, must be secure, reliable, and flexible.

**3. Don’t underestimate the change management aspects of implementing this type of program.** Resistance to new technology can be strong, especially in environments where it may have been tried in the past with limited success. To overcome this, it’s important to build early on a business case that clearly shows the benefits to all stakeholders and solution users.

**4. Focus on the business value, not the technology when preparing a business case for fuel management.** Utilities have seen their share of “gee-whiz” technology that did not generate sustainable value over the long-term. Projects have a better chance of success if all stakeholders have a clear understanding of the business value as opposed to just the technology.

**5. Invest in training the users.** The system cannot be deployed in a vacuum. Critical to the success of the whole undertaking is the attention that must be paid to the users: they need to be shown how to work with the solution, and what benefits they should expect at all levels.

**6. Customers want a solution that is minimally disruptive.** They want a hardware that will last five to seven years on average, at a minimum of three to five years, with the ability to do over-the-air updates. The last thing they want is a solution that requires them to make constant changes, especially to existing vehicles in the field.

Despite the current low adoption rate of telematic and GPS-based services in the utility industry, Dort sees a strong outlook for wireless in utility fleet and fuel management. "In a challenging economy, there is a greater pressure for utilities to focus on operational efficiency, cost reduction and environmental sensitivity. It's all about demonstrating the business value. Advanced wireless technology is ready to deliver it."

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