



**Fuel Management  
Systems (FMS):  
Solutions to managing rising  
fuels costs and their impact on  
business operations.**

**By  
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“Gas thief makes off with over \$900 in diesel” is the headline of a recent Chicago Tribune story. A Naperville business reported to police that 240 gallons of diesel fuel was stolen after hours. Police Sgt. Gregg Bell says, “I’m sure as gas continues to stay at the price it is and doesn’t come down, it could be a more common thing.” This is not an isolated incident. A colleague of mine in the construction business believes that gasoline stored in Aboveground Storage Tanks (ASTs) on his yard has found its way into employees’ private vehicles. He can’t prove it but the amount fuel used in his construction equipment is suddenly higher. With fuel prices heading to all-time highs, we can expect more of these stories.

There is a wide disparity among fleet operators that have fuel on site when it comes to monitoring fuel usage. Some lock it down tight, carefully accounting for every gallon purchased and tracking which vehicle or piece of equipment is using it. Others just reorder when their tanks are low and assume it is all going to plan. And the rest are somewhere in between, using manual or antiquated systems in an attempt to reconcile deliveries with usage, but never really knowing where the discrepancies come from. They assume there are just “errors in the system” and write them off as an ordinary business expense. Considering that fuel costs are a major factor of fleet management, I side with the first group. There are intelligent Fuel Management Systems (FMS) on the market today that can provide security, control and accountability with little overhead to the operation.

Security falls into two categories: safety and theft prevention. Most fleets rely on the drivers themselves to fuel vehicles and equipment. Many operations are 24 hour and some are remote, so the fuel site is completely unattended. Spills and catastrophic system failures can cause dangerous conditions. An employee accident or an attempted theft or act of vandalism could leave the pump running at an unattended site. An FMS can test the pump handle position and use timeouts to restrict dispensing of fuel to reduce the risk of accident. Theft prevention is also a key benefit of these systems. The FMS controls the pumps and only allows authorized users access to the fuel.

Control and accountability are primary reasons fleet operators install an FMS. Simply put, these systems can track and account for every drop of fuel dispensed, by whom and into what vehicle or piece of equipment. They can collect that information from one or multiple sites into PC software and print detailed reports or export into other accounting systems. They can track vehicle mileage and engine hours and provide MPG information for each vehicle. Some systems even interface to the vehicle’s computer to provide error codes. Here are some examples that are representative of the clients Accurate Tank has served across many years:

Elk Grove Village installed a FuelMaster system at three locations for public works, police, fire and emergency response, and other village vehicles. The driver enters a unique ID number into the FMS at the fuel island. An electronic “key” is assigned to each vehicle which is used to activate the fuel pump. The driver also enters the mileage and the pump is turned on. Since the FMS is programmed with each vehicle’s fuel type, it is impossible to put gasoline into a diesel vehicle. The vehicle record will also have the vehicle tank size, so dispensing is limited. When fueling is complete, a date/time stamped transaction is created with driver, vehicle, mileage and fuel amount. These transactions are captured by the PC software automatically every night and are ready for daily reports when the fleet manager arrives in the morning.

Cantigny Park in Wheaton needed to manage its fueling operation used for vehicles and equipment. They chose a Petro Vend FMS to do the job. They account for fuel into gardening and golf course maintenance equipment. Even 5 gallon gas cans are monitored. All fuel dispensed is reconciled with fuel deliveries to give the complete monthly picture. One of the benefits of tracking fuel with an FMS is the ability to record diesel for on-road and off-road use, allowing the fleet operator to reclaim the road tax portion for off-road diesel.

Amtrak Chicago is using FuelMaster systems three ways. The primary use is to track fuel going into their locomotives. The fuelers enter the locomotive number and a "flight number" into the FMS to activate the pumps. Another FMS is used to fuel a tank truck for wet-hosing, or delivering fuel to equipment that logistically can't get to the fuel site. The third system controls the delivery of fuel from outside tanker trucks to Amtrak's 500,000 gallon storage tank. The drivers use the FMS to create an electronic, metered "delivery ticket", which is compared to the bill of lading. All transactions are processed on PC software at their offices blocks away.

Cook-Illinois Corp. operates school buses at multiple facilities. At the Westway Coach site in Villa Park, a FuelMaster FMS with AIM2 technology is being used to control fueling and monitor the bus operation. With AIM2, a device is installed on each bus and is connected to the ECM (vehicle computer). When the bus drivers fuel, they only have to place the nozzle into the fuel fill. The AIM2 system uses radio frequency to automatically ID the vehicle and turn on the pump. The mileage and ECM error codes are automatically downloaded. This saves time for each fueling transaction and provides highly accurate data for the monthly usage reports. Additionally, mechanics check the error codes to assist them on servicing the vehicles.

Today more than ever, fuel inventories are highly valuable. They need to be secured and accurately accounted for. The operation size threshold for installing a fuel tank and FMS keeps falling. There are FMS systems on the market today that provide security, control and accountability for both the large and small fleet. They are easy to operate and don't require a computer expert to manage. At Accurate Tank, we have over 20 years of expertise advising our customers about Fuel Management Systems and helping them to make their business more efficient.

### **Questions or Feedback?**

**Please contact us to discuss FMS for your business as well as sharing your opinions about addressing rising fuel costs.**

### **About Steve Trabilis**

Steve has thirty years experience dealing with fueling solutions of every kind. Before becoming Owner and President of Accurate Tank in 2007, Steve built a substantial career in the petroleum equipment industry. He grew up in the business, spending 27 years with Petro Vend and OPW Fuel Management Systems (a Dover Corp subsidiary), holding management positions in Operations and Sales before becoming President in 1998. In 2005, Steve founded 7 Bridges Consulting, specializing in developing strategies for the petroleum equipment marketplace. Steve is active in the Petroleum Equipment Institute (PEI), of which Accurate Tank is a member. He has served as a Director and has chaired several PEI committees. Steve holds a BS degree from Elmhurst College and an MBA from DePaul University.

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