

July 2007

Special points of interest:

- "The use of Degree Day to determine a buildings heating requirement has several inherent problems in a society that will continue to invest and upgrade to energy efficient dwellings"
- "All messages show-up in the *e-Fuel* Application and can be sent via e-mail, text message or pager"
- "Out-of-gas calls: During our 1st full season of *e-Fuel* Version 1.0 operation, we have had a 95% reduction in out of gas customer calls reported for routed customers."

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The Fuel Web, Inc.

***e-FUEL* - The best method for accurate forecasting of customer fuel usage.**

Accurate forecasting customer usage has been one of the most difficult tasks for the propane marketer. The traditional method used by propane distribution industry to determine a specific customers rate of fuel usage has been the Degree Day (DD) method. The use of DD to determine a buildings heating requirement has several inherent problems.

As society continues to invest and upgrade to more energy efficient dwellings, the heat required will become more non-linear with outside temperature. Many heavily insulated buildings have a lower "balance point" than older homes. For example, some buildings will require heat when the outside ambient temperature is below 65 Degrees F, but others will not require heat until the temperature is much lower. Solar gain reduces the need for heating on sunny days and wind increases

the need for heating depending on how tightly the building is constructed. People also differ in their opinion about what constitutes a comfortable indoor temperature.

Based on a detailed business process analysis of propane marketer retail operations performed by The Fuel Web, Inc. and two independent propane marketers, a list of customer



Taking these factors into consideration, the need for a better way to accurately determine a customers rate of fuel usage is needed to manage the cost of servicing the customer.

usage forecasting requirements were uncovered. The *e-Fuel* solution for these requirements and their dramatic impact on propane retail operations are outlined on **Page 2.**

Maintenance messaging - Event messaging system for better customer service.

The *e-Fuel* Delivery Management System has a in built in Messaging System to communicate information about the status of various system functions and maintenance needs. All messages show-up in the *e-Fuel* Application and can be sent via e-mail, text message or pager. One example is the *e-Fuel* tank monitor which has built in alert capabilities that trigger messages to users from the Messaging System. There are various messages for each user to choose from. These messages include:

- Low Fuel Level Alert – The fuel level has gone below the programmed low level set point within the last 24 hours.
- Unusual Usage Alert – The alert is triggered when there is a drop in the tank level by more than 10% between two consecutive readings which would indicate the possibility of equipment malfunction.
- Inside Temperature Alert – Inside temperature has gone below the programmed set point within the last 24 hours.
- Fill Alert - When the fuel level has increased more than

10% since the last reading an immediate fill alert is sent.
Sensor Alert – The *e-Fuel* Data Module thinks there is a problem with the sensor reading indicating a possible installation problem.

The Message System allows the user to quickly learn if the system is requesting action to be taken. Selling this valued feature at high volume customers will help the Propane Company's efforts to secure new business and add service value to existing customers.

Continued on page 2— e-Fuel method for forecasting customer fuel usage



A snapshot of the e-Fuel Forecasted Deliveries screen. This is part of the e-Fuel system and displays scheduled delivery quantities for each customer up to 90 days in the future using real data.

“Instead of applying a general set of usage statistics like DD, create a statistical model specifically for each tank based on detailed tank monitor usage, local temperature data and professional weather forecast”

Business Area	Requirement	Solution	Impact
Customer Usage	Timely data on tank fuel level	Tank Monitor	Can help eliminate run outs, maximize the size of the delivery and provide better data for forecasting usage.
	Detailed usage and local temperature data	Tank Monitor that records and communicates frequent fuel level as well as inside and outside temperature.	Statistical analysis can be many times more accurate when a high frequency of data sampling is available such as when the right tank monitor is used with the system.
		Tank monitors with alerts for unusual usage, fill, low level, equipment problems or eventually even leaks.	Allows LPG companies to proactively respond to unusual fuel usage situations before run outs occur or problems are discovered by others. Allows live tracking of fills, (are customers being loyal), and proactive management for stuck gauges.
	Accurate usage forecast. Accurate usage forecast during transition seasons.	Integration of automated weather feeds from local weather stations and forecasting agencies.	Combined with detailed usage to determine accurate relationships between professional weather forecast and user behavior. Eliminates inaccuracies when manually entering DD forecast. Provides a standard basis for responding to the affects of weather.
		Integrated Statistical models created in real time	Instead of applying a general set of usage statistics like DD, create a statistical model specifically for each tank based on detailed tank monitor usage, local temperature data and professional weather forecast
			Analyze detailed usage history to determine the best way to forecast usage. Apply the usage rate from the same period last year to forecast this year.
Tools to realize the savings potential provided by tank monitors	Usage forecast for each tank, 90 days into the future	Anticipate driver and bobtail requirements way in advance, smooth daily demand to minimize resource requirements, eliminate over time, have time to make decisions on how to adjust resources due to gains in efficiency	

The primary benefit of a new business platform— Elimination of costly processes.

When companies say they are looking to make changes in their business, in most cases they are looking for are ways to effectively eliminate wasteful

processes that cost the company resources, supplies and time. Benefits for propane marketers that are using the e-Fuel Delivery Management system

have been the elimination of some very costly processes as outlined in customer quotes and application on Page 3.

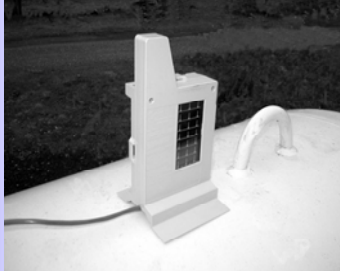
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e-Fuel Data Module on a tank



e-Fuel Gateway in a home



e-Fuel Mobile Bobtail setup



Visit us on the web at:

<http://www.thefuelweb.com/>

Continued from Page 2—Elimination of costly processes

Out-of-gas calls: "During our 1st full season of **e-Fuel** Version 1.0 operation we have had a 95% reduction in out of gas customer calls reported for routed customers".

Stop-with-no-fill: "During the same time period as above, we have had reported a 90% reduction in drivers that have had a delivery scheduled only to find that the customer did not require any propane".

After hours deliveries: Because the propane companies are making delivery decisions based on the *actual* amount of fuel in the customer tank and what their *real* usage rate is, the deliveries have become more efficient (larger) and the propane companies are able to serviced during normal working hours.

Proof of usage: The **e-Fuel Charting** feature has been used with high frequency as

proof during a customer dispute over a bill. A graph is available to print that displays a graphical representation of the customers actual usage and can be e-mailed to the customer for validation.

Voided Tickets: **e-Fuel** customers have reported a 45-50% reduction in voided tickets using e-Fuel reports to remove customers posted in the delivery queue that are not ready for a delivery.

Company Product Updates in July:

E-Fuel:

- Customer Usage Forecasting update.
- Scalable charting of customer usage variables.

Tank Monitoring Hardware:

- Introduction of Flat Sensor Cable.
- 2 Part Sensor: < 3/4 " OD Sensor and detached Mounting Carrier.

TFW Background:

Between 1999 and 2002 a business analysis was conducted by The Fuel Web, Inc. to determine if a significant operational cost savings were available to LP Gas marketers by automating the management of the LP Gas deliveries with modern business tools and methods. The research involved conducting a business process analysis over a two year period in partnership with two LP Gas Marketers located in the western United States. The objective was to see where the impact of using new technologies and business processes would provide a significant improvement in operating efficiencies, improved customer service and streamlined back office processes. The results of the study concluded that a properly implemented integration of the Internet, tank monitoring, advanced forecasting, modern scheduling and routing methods as well as mobile computer systems could provide a very significant positive impact on the bottom line and a significant streamlining of overall operations. Based on this, a new business platform has been developed by the Fuel Web, Inc. named **e-Fuel** and is being used successfully by many propane marketers in North America.