Fleet Cards – Reporting of Alternative Fuels

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EXECUTIVE SUMMARY

Federal fleets have a statutory and regulatory duty to measure and report the use of alternative fuels under the provisions of the Energy Policy Act of 2005 and Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* of January 4, 2007. The majority of federal fleets purchase alternative fuels at commercial retail sites using GSA SmartPay® contracted fleet cards. These fleet cards collect extensive data regarding fleet operations and refueling—including fuel type—from retailer point of sale (POS) equipment. However, federal fleet managers cannot use reports available from fleet card companies to demonstrate compliance with the requirements to use alternative fuels in alternative fuel vehicles because fuel type reporting from retailer POS systems is only accurate 40 to 50 percent of the time.

Two recent surveys of alternative fuel purchases by federal fleets highlighted the challenge encountered by federal fleets in reporting compliance. The GSA refueled with E85 at 217 sites; only 73 transactions had the correct fuel code. LMI Government Consultants review of biofuel use for the Department of Defense concluded for fiscal year (FY) 2006:

- Eighty-two percent of E85 purchased at commercial stations was incorrectly coded. Most E85 was coded as gasoline (59 percent) or marine fuel (19 percent).
- Fifty-nine percent of E85 transactions (by volume) reported to GSA by commercial stations are actually gasoline or diesel.
- Ninety-four percent of B20 transactions are coded correctly, [but] only 4 percent of stations that sell B20 actually code the fuel correctly.
- Ninety-two percent of commercial stations that report selling B20 do not sell the fuel.

Vista Consultants interviewed the petroleum retailing industry, alternative fuel providers, fleet card issuers, network operators, POS manufacturers, card processors, and trade associations to identify the source of fuel reporting problems and propose a solution. What emerged was a picture of an industry with fiercely independent merchants, extremely varied transaction pathways, multiple opportunities to mistranslate codes from one system to another, and no common standard for coding alternative fuels or, for that matter, conventional fuels. However, some common themes became apparent.

- Every card system has its own proprietary requirements for transaction data; every card accepted by a retailer requires different program conditions in the POS.
- The retailer, or the retailer's contracted POS installer, creates the majority of fuel type coding errors in the onsite POS set up.
- Once established, the retailer rarely has further visibility of the codes used and never sees what the customer receives at the end of the transaction system.
- No regulatory agency has oversight responsibility to ensure that the correct product information is printed on the POS receipt or available to fleets at the conclusion of the transaction.

- Only the customer can identify transaction errors. It is the customer's responsibility to notify the retailer that the coding is incorrect. However, there is no requirement that the retailer fix the coding.
- Some code translation errors occur between nodes in the financial system outside the control of the retailer; however, every indication is that these are rare.
- POS installers do not understand the differences between gasohol, 5.7 percent ethanol blends, and E85. Gasoline specification changes from the use of MTBE[1] to ethanol as an oxygenate have resulted in some stations reporting sales of ethanol when in fact the product sold was E10—commonly called gasohol.

There is no "silver bullet" solution to the problems associated with fuel type coding. However, Vista Consultants identified a number of concurrent actions that can begin to address the issue and resolve it over time. A process is required to get the data, analyze the data, advise the fleet card company and the retailer of problems, and follow up on the progress in correcting the fuel coding. An active outreach program to the merchants, networks, manufacturers, and card processors is also recommended.

These actions would require new work for the fleet and program managers in federal agencies who must now track—at least periodically—the data provided at both ends of fleet card clearing transactions. A federal fleet-wide approach to collect data on incorrect fuel reporting is called for. However, the analysis of data and actions taken would be more consistent and efficient if consolidated with one agency or contractor.

Federal fleet managers should take every opportunity to encourage the retail alternative fuels industry to remedy the reporting issues cited in this report. The alternative is to accept the status quo. The resolicitation of agency task orders under the SmartPay®2 contract provides an opportunity to manage the refueling of flexible fuel vehicles through hose level authorization controls and other purchase card management policies that would encourage industry correction of reporting issues and fleet use of alternative fuels. In any case, SmartPay®2 contract task orders should include provisions that allow the dispute of billing transactions that do not include the proper fuel codes.

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[1] Methyl *tertiary*-butyl ether (MTBE) was used as a gasoline additive to increase octane and improve fuel combustion.

FLEET CARDS – REPORTING OF ALTERNATIVE FUELS

SUMMARY OF ISSUE

BACKGROUND INFORMATION

Purchase cards are widely used for the purchase of fuel and vehicle maintenance services for US and state government fleet vehicles. The cards are familiar, "user friendly" purchase tools that have proven to be efficient, have been easily and effectively integrated into financial systems, and provide better management and cash control than systems used in the past. Government fleet managers depend on the detailed information provided by specialized purchase cards – fleet cards – to monitor fuel and vehicle usage. The data provided by fleet cards in the conventional fuel market has been adequate to support fleet manager requirements. Even where errors in coding were present they did not present a major obstacle to reporting because even where the incorrect grade of gasoline was reported, the product was still gasoline.

The same consistency of results is not evident when fleet cards are used to purchase alternative fuels (ethanol, natural gas, biodiesel, and propane). Cursory reviews of fleet fuel reports provided by fleet card companies show significant errors in the reporting of these fuels. E85 (a blend of 85% ethanol and 15% gasoline) is often reported as premium gasoline and sometimes marine, aviation or non-taxable diesel fuels. In some cases, retail service stations report the sale of E85 when that station does not carry the product. It is clear that purchase card processes do not accurately collect, manage, or forward information on the use of alternative fuels to government fleet managers who need this data to meet Executive Order and statutory reporting requirements.

This report examines the current status of the fleet card industry from card to fleet manager and proposes several approaches to solving the reporting issues when alternative fuels are purchased.

LEGAL AND ADMINISTRATIVE REQUIREMENTS

Since the passage of the Energy Policy Act (EPAct) of 1992, the federal government has increased its purchases of light duty vehicles using alternative fuels at a steady pace. The General Services Administration has purchased over 68,000 alternative fuel vehicles for federal fleets. EPAct 1992 did not have any requirement for the use of alternative fuels in alternative fuel vehicles. US Government policy recognized that the purchase of alternative fuel vehicles would not promote the use of alternative fuels without additional guidance to federal agencies.

When President Clinton signed Executive Order (E.O.) 13149, Greening the Government through Federal Fleet and Transportation Efficiency, on April 21, 2000, he directed Federal agencies to take a leadership role in the reduction of vehicular petroleum consumption. (Office of Technology Utilization, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy 2006). E.O. 13149 required federal fleets to reduce petroleum use by 20 percent and use alternative fuels at least 51 percent of the time in alternative fuel vehicles. These

reductions were mandated using fleet management improvements and by the substitution of alternative fuels in those vehicles capable of using such fuels. Federal fleet managers have learned that fleet purchase cards often do not accurately report quantities and types of alternative fuels used in government vehicles. These reporting requirements were further codified by EPAct 2005 and E.O. 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* of January 4, 2007. The necessity to report compliance with EPAct and Executive Order requirements brought the inaccuracies of alternative fuel use reporting through commercial fleet card systems into sharp focus.

Legislation to date has failed to recognize the great difficultly for fleets to demonstrate compliance with the requirements to use alternative fuels. Most alternative fuel vehicles operated by federal, state, local and commercial fleets depend on commercial alternative fuel infrastructure to purchase alternative fuels using fleet cards. These card systems are excellent at recording the financial aspects of the fuel transactions but fall short of accurately recording the quantity and type of fuel purchased.

LEVEL THREE DATA REPORTING ERRORS

The federal fleet community has understood for many years that the information provided by fleet card companies is subject to error. There have always been cases of regular gasoline purchases being reported as premium gasoline or gasohol. There have always been cases of gasoline being reported as "fuel". There have even been cases of gasoline purchases being reported as "miscellaneous" sales. However, these errors were relatively easy to reconcile and, until E.O. 13149, the reports provided by the fleet card companies were more than adequate for the primary focus of the fleet manager – financial accounting.

With the advent of alternative fuel vehicles and refueling sites in the mid-1990s, fleet managers began to notice that alternative fuel purchases were misreported as conventional fuels or fuels that could not be used in the specific alternative fuel vehicle. For example, compressed natural gas vehicles would be reported as purchasing gasoline, diesel, or aviation fuel. As early as 1999, some agencies were looking for ways to improve the reporting accuracy of alternative fuels through the fleet cards then under contract. Over and under reporting of alternative fuels was common.

More recently, the GSA and DoE conducted a cooperative survey of many existing E85 stations (Anderson 2007). The reporting error rate in this survey was approximately 65 percent. In a report for the Department of Defense (DOD), LMI Government Consulting reported that:

> FY06 GSA and DoD Voyager card raw transaction data suggests that only 18 percent of E85 purchased at commercial stations is correctly coded. Most E85 is coded as gasoline (59 percent) or marine fuel (19 percent). Similarly, many stations incorrectly code gasoline or diesel sales as E85. LMI estimates that 59 percent of E85 transactions (by volume) reported to GSA by commercial stations are actually gasoline or diesel.

Although by volume most B20 transactions (94 percent) are coded correctly, only 4 percent of stations that sell B20 actually code the fuel correctly. Similarly, LMI estimates that 92 percent of commercial stations that report selling B20 do not sell the fuel.

In FY06, GSA began addressing E85 coding issues by reporting all E85 FFV [purchase] transactions at commercial stations that sell E85 as E85. LMI's analysis of correctly coded fuel transactions suggests that 45 percent of transactions by E85 FFVs represent gasoline rather than E85. Therefore, LMI believes that GSA may be overestimating commercial E85 usage in FY06 (Bentley, et al. 2007, 2-10).

FACTORS CONTRIBUTING TO REPORTING ERRORS

The problem of getting accurate information on alternative fuel use from otherwise accurate financial transactions stems from many factors. These include:

- Some alternative fuel pumps are not networked through automated point of sale devices (POS). Sales of alternative fuels at these sites are made on a cash register as a miscellaneous sale.
- Alternative fuel retail sites in rural areas have limited connectivity to the Internet for the processing of transactions and limiting data transfer.
- Dispensers and POS devices or software installed at retail fuel stations do not support level three data. The information on the fuel type purchased is, by card industry standards, contained within the level three data.
- Financial and credit card companies have yet to adopt codes for alternative fuels. The multiple layers and routing of an alternative fuel sales transaction, even if reported correctly at the POS, cannot be reported properly if the code cannot be translated as the data passes through financial systems.
- POS installers and maintainers without sufficient knowledge of POS options for reporting alternative fuels or a misunderstanding of what fuel constitutes E85. In many cases, POS installers and maintainers are coding ethanol blended fuels (E10, gasohol, 6.7% ethanol, etc.) as E85 when in fact the product is a true gasoline blend. Or, they know they have E85 but do not understand how to access or create appropriate codes in the POS, back office software or company host.
- Retail stations without alternative fuel codes use an unused conventional fuel code available to them (e.g., aviation) to manage sales and inventory. They know locally that these sales are for ethanol or other alternative fuel but continue to report these sales as the available code to the fleet operator.
- POS devices are programmed to send the correct level three data. But errors in mapping and translating fuel codes between the multitude of back office hosts, company networks, card issuers, card acquirers, and card processors are not identified. This is a constant battle with conventional fuels too since product blends change seasonally and various regions of the country have specialty blends.

In summation, the lack of an enforced requirement or industry-wide standard for the retail petroleum industry to properly report level three fuel data significantly impacts the reliability of data collection to demonstrate fleet compliance with alternative fuel use requirements. This also impacts the nation's ability to report progress in the replacement of petroleum with alternative fuels.

FEDERAL FLEETS LARGELY REFUEL AT COMMERCIAL SITES USING VOYAGER OR MASTERCARD FLEET CARDS

The federal government operates approximately 592,000 vehicles in the United States (Office of Travel, Transportation, and Asset Management, U.S. General Services Administration 2007, 22). While this is a large fleet, the total of the federal government fleet is only

| Estimated Annual Fuel Purchases Using Voyager Card	
U.S. Postal Service	$300,000,000
General Services Administration	$260,000,000
Department of Defense	$ 43,000,000

0.2362 percent of the total domestic fleet of vehicles.[2] The majority of these vehicles use the Voyager Fleet Card for fuel and maintenance transactions at commercial petroleum retailers (all U.S. Postal Service vehicles and most vehicles leased to other agencies by the GSA and a large part of DOD owned vehicles). Petroleum and alternative fuel sales to the U.S. Government by Voyager exceeded $650 million in FY2006. MasterCard Fleet is used by the Department of Homeland Security where most purchases are made by the U.S. Coast Guard for the refueling of ships and aircraft.

The increasing trend to use commercial refueling sites will continue as more federal agencies remove government-owned fuel facilities for cost saving and environmental reasons and turn more to GSA's fleet leasing programs for their vehicles (See Figure 1). The use of commercial sites for alternative fuels will also increase as more federal agencies are required by EPAct 2005 to use commercial alternative fuel sites and are required by E.O. 13423 to collaborate with Clean Cities[3], local governments and commercial companies to encourage development of commercial alternative fuel infrastructure near populations of federal fleets.

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[2] There were 243,023,485 registered vehicles in the US in 2004. This from the Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, Table 1-11: Number of U.S. Aircraft, Vehicles, Vessels, and Other Conveyances for 2004. http://www.bts.gov/publications/national_transportation_statistics/2006/html/table_01_11.html accessed 6/29/2007. There were 575,388 federal vehicles (unregistered) in the US in FY 2004. This from GSA Office of Governmentwide Policy, Federal Fleet Report Fiscal Year 2004. http://www.gsa.gov/gsa/cm_attachments/GSA_DOCUMENT/FFR2004_R2K-g6_0Z5RDZ-i34K-pR.pdf accessed 6.29.2007. This gives a total US vehicle population of 243,598,823. Federal vehicles are .2362% of the total US vehicle population.

[3] The mission of the Clean Cities Program is to advance the nation's economic, environmental, and energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption. Clean Cities carries out this mission through a network of more than 80 volunteer coalitions, which develop public/private partnerships to promot (U.S. Department of Energy 2006)e alternative fuels and vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction. Clean Cities

FIGURE 1 - THE GRAPH BELOW SHOWS HISTORICAL TRENDS FOR THE GSA SMARTPAY® FLEET CARD PROGRAM.   FY06 FLEET CARD STATISTICS SHOW APPROXIMATELY $1.8 BILLION IN SPEND; 32 MILLION TRANSACTIONS; 659,000 CARDS (U.S. GENERAL SERVICES ADMINISTRATION, SMARTPAY 2007)
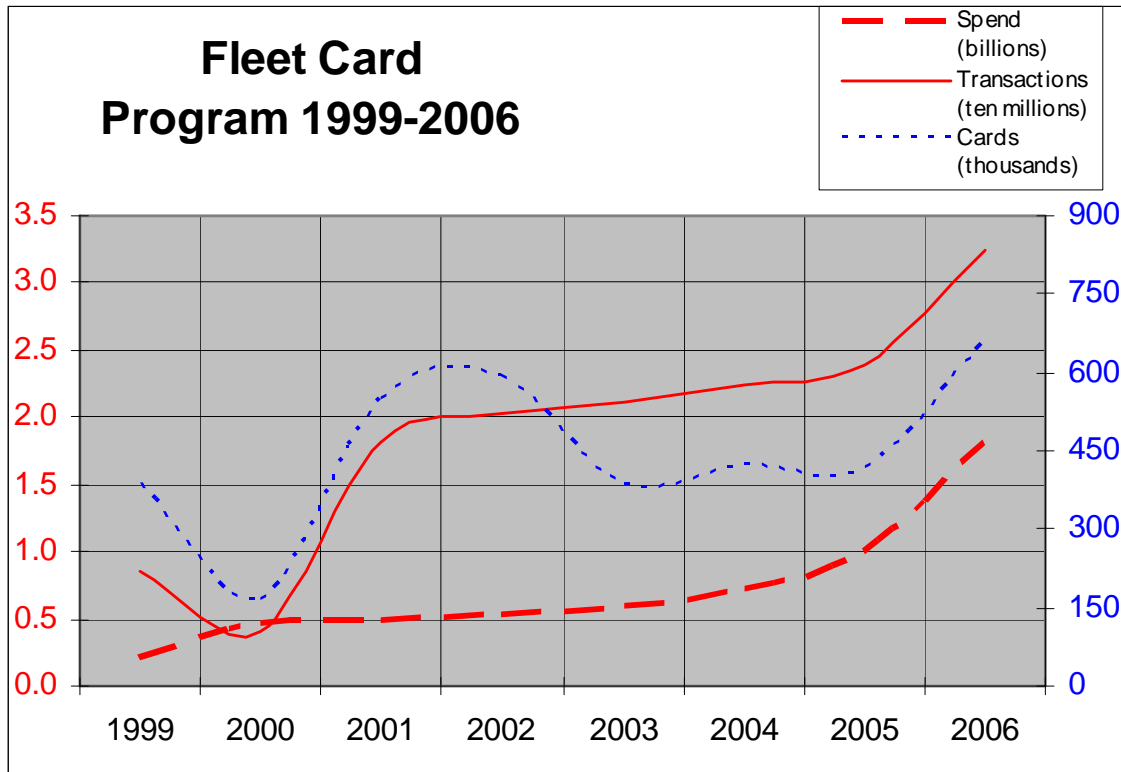
FINDINGS FROM TRANSACTION DATA

SURVEY OF SITES BY GSA

The General Services Administration Fleet Division conducted a pricing and coding survey of retail sites that provide E85 in February 2007. GSA's Customer Service Representatives visited 567 E85 stations and refueled with E85 at 217 of these locations. The Customer Service Representatives obtained a receipt and forwarded the receipt and additional information about the fuel purchase to GSA Fleet for comparison with Voyager FleetCommander®[4] reports. The receipts provided show that most sites have attempted to program card readers in fuel dispensers or inside POS devices to advise the purchaser the product purchased (Table 1).

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is part of the Office of Energy Efficiency and Renewable Energy's FreedomCAR & Vehicle Technologies Program. (U.S. Department of Energy 2006)

[4] Voyager Fleet Systems developed Voyager FleetCommander® specifically to assist Voyager Fleet Systems customers in their management of large fleets of vehicles. The application is designed to allow our customers to easily track, trend, and analyze their sometimes overwhelming volume of transaction data in a user-friendly environment. (Voyager Fleet Systems n.d.)

Retailers provided reasonable product identification on receipts on 80.6 percent of the E85 purchases. This programming is done at the individual site within the POS software.

Table 1 – Fuel Type Reported on GSA E85 Fuel Purchase Receipts – Codes and Counts in Italics Were Evaluated as Valid for E85 (Anderson 2007)					
Fuel type on Receipt	**Number of Receipts**	**Fuel type on Receipt**	**Number of Receipts**	**Fuel type on Receipt**	**Number of Receipts**
Blank fuel type	3	*ETHANL85*	*1*	Premium	2
05 Other Fuel	1	*Ethanol*	*9*	Regular	1
5	1	gas	1	SPXSUP	1
DIES	1	GASOH	1	SUPSPX	1
E 85	*5*	Gasohol	1	T-834"E	1
E85	*118*	Kerosene	1	UNKNOWN	2
E-85	*36*	MANUAL FUEL	1	UNLALCO	7
E85 Ethanol	*1*	Mid2	1	UNLD	1
E85 Ethanol Fuel	*1*	misc	1	Unld 90/91	1
E85 Gasohol	*1*	N/A	6	Unleaded	1
E85, Se	*1*	no receipt	1	UNLEADED PRE	1
ETHA CR #02	*1*	None	2	**Total Receipts**	**217**
Ethan85	*1*	Offroad Diesel	1	**Accurate Receipts**	**175**

Voyager FleetCommander® was reviewed following two billing cycles to reconcile the E85 purchases with the fuel data provided in the available reports. FleetCommander® and MasterCard Smart Data OnLine™[5] are used by federal agencies to review fleet vehicle utilization, costs, and fuel use. These reports are the basis for all reporting of alternative fuel use as required by EPAct 2005 and E.O. 13423. After reconciling the receipts to the FleetCommander® reports, GSA was able match 207 Voyager transactions to the 217 reported purchases. Voyager reported 73 of the 207 transactions as E85 with the remainder of the fuel codes spread across a variety of fuel grades (Table 2). The reporting accuracy at the end of the process was 34.7 percent.

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[5] MasterCard Smart Data OnLine™ is a global Web-based reporting application that helps Public Sector agencies or other public sector entities seamlessly organize, consolidate, analyze and manage financial data from cards, cash transactions and other MasterCard programs. (MasterCard 2007)

Appendix 2 provides a complete listing of the E85 stations where GSA Customer Service Representatives refueled with E85. The data also shows the fuel type as listed on the receipt and from FleetCommander® reports.

Table 2 – Fuel Type Reported by Voyager FleetCommander® on GSA E85 Fuel Purchases – Codes and Counts in Italics Were Evaluated as Valid for E85 (Anderson 2007)					
Fuel type on Receipt	**Number of Receipts**	**Fuel type on Receipt**	**Number of Receipts**	**Fuel type on Receipt**	**Number of Receipts**
Blank	3	DIESEL	3	UNL+	2
10% GASOHOL	1	DISL	3	UNLD	33
6.7% GASOHOL	1	*E 85*	*22*	UNLD SUPER BLND 5.7%	1
7.7% GASOHOL	3	*E85*	*41*	UNLEADED	13
AVIA	4	*ETHANOL*	*9*	UNLEADED PLUS	6
AVIATION	2	*ETHN*	*1*	UNLEADED SUPER	4
BL10	2	KERO	8		
BL57	8	MARN	1		
BL77	3	N/A	9	**Total Receipts**	**207**
CNG	1	SUPR	23	**Accurate Receipts**	**73**

SURVEY OF DOD FUEL USE CONDUCTED BY LMI GOVERNMENT CONSULTING (LMI)

Under contract to the Defense Energy Support Center (DESC), LMI Government Consulting completed an analysis of *DEPARTMENT OF DEFENSE POTENTIAL BIOFUEL USE IN FY07–12* (Bentley, et al. 2007). As a part of the analysis, LMI reviewed 1.6 million transactions for ground fuels[6] to determine where DOD purchases ground fuels and where DOD could purchase more alternative fuels—especially from commercial retailers. LMI received DOD fuel transaction from GSA and DOD Voyager data and from military base on-site infrastructure sales. These transactions were matched to vendor locations using the Voyager merchant codes or the military site Department of Defense Activity Address Codes (DODAACs). LMI received the Alternative Fuels Data Center database of alternative fuel refueling sites and matched this information to the transactions to determine which transactions took place at an alternative fuel station. This data also showed the fuel type as provided by Voyager FleetCommander®.

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[6] Ground fuels include all blends of gasoline and diesel fuel as well as all alternative fuels purchased by the Department of Defense for non-tactical vehicles.

The review of the consolidated data allowed the determination of those locations with B20 or E85 where the fuel code was – or was not – successfully transmitted and mapped through the card processing systems. The data also allowed LMI to identify those commercial stations reporting B20 or E85 sales successfully even though they did not carry these products.

As quoted previously, LMI stated that:

"FY06 GSA and DoD Voyager card raw transaction data suggests that only 18 percent of E85 purchased at commercial stations is correctly coded. Most E85 is coded as gasoline (59 percent) or marine fuel (19 percent). Similarly, many stations incorrectly code gasoline or diesel sales as E85. LMI estimates that 59 percent of E85 transactions (by volume) reported to GSA by commercial stations are actually gasoline or diesel.

Although by volume most B20 transactions (94 percent) are coded correctly, only 4 percent of stations that sell B20 actually code the fuel correctly. Similarly, LMI estimates that 92 percent of commercial stations that report selling B20 do not sell the fuel." (Bentley, et al. 2007, 2-10)

Appendix 3 lists 250 service stations where DoD purchased gasoline in FY2006 but the stations reported the sale of E85. These locations are not identified on the Alternative Fuels Data Center (AFDC)[7] or National Ethanol Vehicle Coalition (NEVC)[8] websites as being E85 stations. Spot checks of corporate websites confirm that these stations are not E85 sites. These reporting errors are created at the local site and most likely indicate an ethanol blended gasoline – perhaps E10 – was purchased but that the POS has been set up to report the sale of E85.

GENERAL DESCRIPTION OF PURCHASE CARDS AND HOW THEY WORK

The use of a purchase card is quick and easy. Purchase cards swiped through a POS device initiate communication with a vast global computer network. This network transmits and returns data from the POS to on-site computer hosts, company networks, independent service organizations (ISO), issuing banks, and acquiring banks in a matter of seconds. Behind the POS device are a large number of computer

The simple payment card has been around since at least the beginning of the last century. Hotels, oil companies, and department stores issued cards before World War I. In response to customer requests, Sears began offering lines of credit in 1910 to customers of "unquestionable responsibility," although the Sears card came more than a decade later. Some large retailers gave cards to their wealthier customers that identified them as having a charge account with the store. ... During the 1920s as well, oil companies issued "courtesy cards" for charging gas. By the end of World War II, charge cards were no longer a novelty, but they were about as far from the cards of today as barter was from coin. (Evans and Schmalensee 2005, 53)

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[7] http://afdcmap2.nrel.gov/locator/
[8] http://www.e85refueling.com/

interfaces and data translations that must take place to get the merchant paid and the card owner billed. In truth, the miracle is that purchasing data can so quickly and accurately be transferred around the globe. While many things could go wrong in this system, the error rate on the level one data (account number, merchant identification, and cost of materials purchased) is extremely rare. However, the financial industry has paid less attention to the details contained in the level two and three data that piggybacks on the financial aspects of the transaction. As one convenience store operator said, "It is a constant and sometimes losing battle to keep all of the codes translated between systems." (Walden 2007)

THE PLASTIC CARD

All transactions start with the plastic charge card. The plastic charge card is really "a peripheral device that gives you access to a vast global computer network. From the front, the card has some interesting features. Your account number is embossed at the bottom and identifies the card" (Evans and Schmalensee 2005, 9).

Here are what some of the numbers stand for (Figure 2):

> The first digit in your credit-card number signifies the system:
>
>> 3 - Travel/entertainment cards (such as American Express and Diners Club)
>>
>> 4 - Visa
>>
>> 5 - MasterCard
>>
>> 6 - Discover Card
>
> The structure of the card number varies by system. For example, American Express card

Humankind has seen only four major innovations in the routine aspect of economic life – how we transact with one another: the switch from barter to coin around 700 BCE; the introduction of checks by the Venetians in the twelfth century; the shift to paper money in the seventeenth century; and now the payment card. (Evans and Schmalensee 2005, 5)

FIGURE 2 - CARD NUMBERING (HOWSTUFFWORKS 2007)
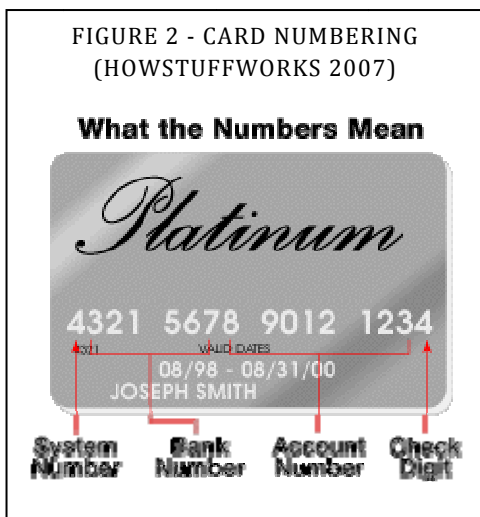
numbers start with 37; Carte Blanche and Diners Club with 38.

American Express - Digits three and four are type and currency, digits five through 11 are the account number, digits 12 through 14 are the card number within the account and digit 15 is a check digit.

Visa - Digits two through six are the bank number, digits seven through 12 or seven through 15 are the account number and digit 13 or 16 is a check digit.

MasterCard - Digits two and three, two through four, two through five or two through six are the bank

number (depending on whether digit two is a 1, 2, 3 or other). The digits after the bank number up through digit 15 are the account number, and digit 16 is a check digit (HowStuffWorks 2007).

"The real business side of the purchase card is the backside with the magnetic stripe, also called a magstripe. The magstripe is made up of tiny iron-based magnetic particles in a plastic-like film. Each particle is really a tiny bar magnet about 20-millionths of an inch long. The magstripe can be "written" because the tiny bar magnets can be magnetized in either a north or a south pole direction. The magstripe on the back of the card is very similar to a piece of cassette tape. There are three tracks on the magstripe. A typical purchase card uses only tracks one and two. Track three is a read/write track (which includes an encrypted PIN, country code, currency units and amount authorized), but its usage is not standardized among banks." (HowStuffWorks 2007)

STEPS INVOLVED IN A TYPICAL FLEET CARD TRANSACTION

The pathway followed by a fleet card transaction can vary greatly. In many cases there are a large number of intermediary steps in the process. In others, a single card processor can handle many steps including the clearing and settlement of the transaction between the participating banks. The following illustrates just one potential pathway (HowStuffWorks 2007, Evans and Schmalensee 2005, 9-11, McCarthy 2007).

1. Fleet operator presents the POS with a fleet card accepted by the merchant.

2. The POS device reads the magnetic stripe on the back of the card for data and combines that data with information about merchant and POS device (both have unique identification numbers for each purchase card accepted). The Electronic Data Collection (EDC) software – usually located on an on-site host computer – takes the collected data and transmits the data to the merchant's acquiring bank.

3. The acquiring bank determines the type of card being used and sends a request through a card processor requesting authorization for the cardholder to use the card.

4. The card processor identifies the bank that issued the card and sends the authorization request to the issuing bank.

5. The issuing bank checks the validity of the card, the status of the account and any limitations on the card's use at the particular merchant – usually based on the merchant code –places a hold on the account for the estimated amount of payment and sends an approval to the card processor.

6. The card processor forwards the approval to the acquiring bank.

7. The acquiring bank forwards the approval to the merchant's EDC and the EDC unlocks the dispenser.

8. The cardholder refuels his vehicle and returns the nozzle to the dispenser. This closes the transaction.

9. The transaction details are stored in the merchant's EDC software. This is the point at which odometer readings, purchase volume, tax details, and fuel type are added to the data set. The POS device usually adds the product code to the transaction details based

on the codes applicable to the card that was swiped. However, the EDC software might also add or modify the fuel codes provided by the POS.

10. At a later time, probably that night when the store is closing up, the merchant reviews all the authorizations stored in the point of sale unit against the signed sales drafts. When all the credit card authorizations have been verified to match the actual sales drafts, the merchant will capture, or transmit, the data on each authorized credit card transaction to the issuing bank for billing to the cardholder – also called clearing. These transactions include the level three data on fuel type. The clearing transaction is set to the cardholder's bank (issuing bank) and billed to the cardholder's account.

11. Next, the card processor initiates a series of settlement transactions. First, the card processor identifies the bank that issued the card and sends the request for payment—less fees—to the issuing bank.

12. The issuing bank checks the validity of the transaction and credits the card processor.

13. The card processor determines the type of card used and sends a credit less fees to the merchant's bank (acquirer).

The acquiring bank deposits the value of the purchase – less a merchant discount – to the merchant's account. The merchant discount is the charge from the merchant's bank for handling the transaction. It includes the bank's charges and an interchange fee that is paid to the card processor for moving the data in the financial network. The merchant typically receives 98% of the value of the original transaction. Average credit card cost to petroleum retailers is 62 cents per transaction (Grondin-Francella 2007).

Some of the details in the example presented above arose because card issuers such as Bank of America are each a single node in a network of thousands of issuers and acquirers and millions of merchants. Banks issuing Visa and MasterCard do not operate their own independent systems but work through the Visa or MasterCard card associations.[9] In the most simplified case, American Express acts as the card processor, issuing and acquiring bank thus cutting many steps out of the previously described transaction.

The bottom line is that the transaction pathway for a specific fleet card accepted at a specific merchant will be different from other fleet cards accepted by the merchant. And, because of the variety, age and capabilities of the installed POS equipment these pathways could be different even between storefronts owned by the same merchant.

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[9] "MasterCard and Visa – two brands that account for 72 percent of all U.S. payment card transactions – are associations of financial institutions. Members cooperate in a few key area that generate efficiencies for consumers and merchants – particularly in the design and operation of the vast computer networks that now enable transactions around the world to be completed in just a few seconds, as well as in advertising and some aspects of product development. Members compete along almost every other dimension – such as interest rates, fees, service, and innovative card offerings." (Evans and Schmalensee 2005, 6-7)

PARTICIPANTS IN THE SALE OF ALTERNATIVE FUELS

RETAILERS

Few alternative fuel retailers are associated with major oil companies or are nationwide petroleum retailers. The majority of alternative fuel retailers are independent jobbers or chains. Most are convenience stores and, particularly in the Midwest, farmers cooperatives. Single store operators are likely to have functional but outdated POS devices and software with many fuel sales rung inside instead of at the pump.

Some large independent convenience and grocery store chains have committed to alternative fuels. Holiday Stationstores, Sheetz, Sphinx, Kroger, and HEB are leaders in this category. These organizations have the size and resources to keep POS equipment current. However, the analysis of data shows that these companies are no better at reporting product codes correctly than the smaller retailers.

A third group of independent retailers has outsourced all fuel retail operations to a third party. An example is the Farmers Cooperative Elevator in Graettinger, IA. The Cooperative's fuel operation has contracted to StarEnergy. StarEnergy is itself owned by Growmark which is a farmer's cooperative.

CARD ISSUING BANKS – GSA SMARTPAY®

Federal fleets obtain fleet cards under the GSA SmartPay® contract. The current fleet card issuing banks and cards offered are:

> Bank of America offers the Voyager Fleet Systems and MasterCard Fleet Fuel Card,
> CitiBank offers the Voyager Fleet Systems and MasterCard Fleet Fuel Card,
> JPMorganChase offers the Fleet Fuel Card, and
> U.S. Bankcorp offers Voyager Fleet Systems.

GSA has just awarded a new master contract for purchase card services called SmartPay®2. Agencies are currently preparing individual task orders for bid to issuing banks under the terms of the SmartPay®2 contract. The task orders must be in place by November 2008 when the SmartPay® contracts expire. Under SmartPay®2 the fleet card offerings and issuing banks have expanded. They are:

> Citibank N.A. of Sioux Falls, SD—offering MasterCard Fleet Fuel Card, Visa Fleet Card,
> > Wright Express, and Voyager Fleet Systems,
> GE Capital Financial Inc. of Salt Lake City, UT—offering MasterCard Fleet Fuel Card in
> > partnership with Comdata Corporation (a card processor),
> JPMorgan Chase N.A. of New York, NY—offering MasterCard Fleet Fuel Card, and
> U.S. Bancorp of Minneapolis, MN—offering Voyager Fleet Systems.

ACQUIRING BANKS – MERCHANTS' BANKS

Acquiring banks are the banks where the merchants maintain their accounts. In addition to banks, third parties are also acquirers. "The best way to think of the acquirer is as the account representative—the person who works with the retailer to handle its card transactions. For new businesses, this person works with the store to obtain equipment for tanking cards (as we all know for shopping, this equipment varies in sophistication from merchant to merchant), deciding what cards to accept, and choosing among various methods for reporting and summarizing transactions and integrating these methods into the merchant's accounting system." (Evans and Schmalensee 2005) Acquirers are said to prospect for new and existing merchant accounts. Obviously, acquirers are located all across the country. In many cases, the merchant's bank or other acquirer will contract with a network—also called an Independent Service Organization (ISO)—to manage the flow of electronic information to and from its merchant accounts.

NETWORKS, CARD PROCESSORS AND VALUE ADDED RETAILERS

NETWORKS

The computer networks that control the flow of electronic financial data are large and complex. The hardware and necessary mirrored backup facilities are housed in large facilities with high overhead. As processing "relied increasingly on new technologies—such as electronic point-of-sale systems, and networks for transaction authorization, capture, accounting, and charge-back functions that became increasingly sophisticated—it became a prohibitively expensive activity for all but the largest banks. (A charge-back is a transaction disputed by the cardholder.)." (Evans and Schmalensee 2005, 250) In the 1970s and 1980s most banks both acquired merchant accounts and issued cards. They also ran their own networks for capturing data and processing because most of the transactions were between accounts at a single bank or regional banks. As the use of purchase cards and the number of banks expanded, the economies of scale available to a single network provider expanded as well. Over time, the banks found that third party networks could capture data from merchants more economically. The 1990s ushered in a period of tremendous growth in the use of third party networks and the expansion of the networks into card processing. This trend in turn led to mergers and consolidation as card processors sought increased economies of scale and scope.

CARD PROCESSORS

"By 2002, third-party firms came to take over merchant processing, accounting for 70 percent of merchant processing volume. Over roughly this same period, and for much the same reasons, many banks opted out of processing on the issuing side of the business. The share of third-party firms in cardholder processing increased from 36 percent to over 71 percent in 2002." (Evans and Schmalensee 2005, 250)

As mentioned previously, when banks do not have the resources to invest and maintain an interbank computer system they turn to card processing specialists to do some or all of the work in purchase card data processing. The ISOs started as network managers ensuring that information entering the network was delivered to the proper computer node in the most

economical manner. As Barry McCarthy of First Data Corporation states, "First Data is a processing company. First Data does not create or modify any data that passes through its network. First Data processes about 1/3 of the card transactions under its own brand. First Data also owns significant portions of other processing companies including Wells Fargo, Chase Paymentech, and Pittsburgh National Bank (PNC). Overall, First Data and its affiliates process about 2/3 of all the credit card transactions in the United States." (McCarthy 2007) First Data Corporation processes Voyager, MasterCard Fleet, and Visa Fleet transactions.

When operating as network providers and transaction processing companies, First Data Corporation and other transaction processing companies do not have responsibility to monitor the accuracy of the data forwarded by the POS, the issuing bank, the acquiring bank, or the card associations. These companies are responsible for the switching and transmission of the data to the appropriate point for further processing. The data is solely the responsibility of the merchant. "The processing industry is like a semi-trailer. The industry provides data fields (the trailer) into which merchants and card companies can put data and then drives the truck to the destination. At that point, the data is unloaded. The transaction company never has a need to see what is in the truck. Virtually all errors originate at the POS. Rarely some data might come from the merchant that is corrupted but if sufficient data is available for billing, those data are forwarded." (McCarthy 2007)

However, card-processing companies are no longer operating as simply as data transporters in the financial network. These companies have branched into other aspects of the card industry through contracts with issuing and acquiring banks and through acquisitions. For example, First Data Corporation acquired Concord EFS who was a competing card processor. With that acquisition, First Data Corporation also acquired Buypass Corporation. Buypass Corporation is a major supplier of third party software to the convenience store industry and Buypass does establish specific proprietary codes for fuel transactions. Interviews with petroleum retailers differed on the ability of Buypass software to identify alternative fuel transactions. Buypass is the most common software used at unbranded petroleum sites (Turner 2007).

First Data Corporation may be the largest single card processing company in the United States. Nevertheless, it is by no means the only company. Here are the profiles of First Data Corporation and some of the other card processors alternative fuel retailers are using:

FIRST DATA CORPORATION
"First Data Corporation provides electronic commerce and payment services for financial institutions, commercial establishments, and consumers principally in the United States. It operates in four segments: First Data Commercial Services, First Data Financial Institution Services, First Data International, and Integrated Payment Systems. The First Data Commercial Services segment provides merchant acquiring and processing, debit network acquiring and processing, check verification and guarantee, and prepaid card services. The First Data Financial Institution Services segment offers credit and retail card processing; debit card processing and network services; output services, such as statement and letter printing, embossing, and mailing services; and remittance processing services. The First Data

International segment provides credit, debit, and prepaid card processing; merchant acquiring and processing; and ATM and point-of-sale processing, driving, acquiring, and switching services internationally. It also offers services, such as account management, transaction authorization and posting, and network switching, as well as reimbursable postage. The Integrated Payment Systems segment issues checks and money orders, through banks and other financial institutions, as well as providing other payment services, such as remote deposit, clearing services, and processing in various forms, such as checks, ACH, wire transfer, and stored-value cards. The company also operates in the United Kingdom, Germany, and Australia. First Data Corporation was founded in 1989 and is headquartered in Greenwood Village, Colorado." (Yahoo! Finance 2007)

NATIONAL BANKCARD SYSTEMS

"National Bankcard Systems was established in 1997, by Austin Texas resident Penny Baker. National Bankcard Systems has grown into a multimillion dollar credit card processing vendor. National Bankcard Systems can provide merchant services including, Credit Card Acceptance, Electronic Check Acceptance, EBT, Debit Card, Gift Card, ATM services, and a variety of other electronic payment methods to nearly any type of business! Inc 500 Magazine has rated National Bankcard Systems in the top 500 fastest growing businesses for three consecutive years. The Austin Business Journal has rated National Bankcard Systems, as the fourth fastest growing private company in Austin, TX. National Bankcard Systems has offices in Texas, Colorado, California, Arkansas, and Wisconsin, and employs over 300 outside sales representatives." (National Bankcard Systems 2007)

CHASE PAYMENTECH

"Chase Paymentech Solutions, LLC, headquartered in Dallas, Texas, is the world's largest merchant acquirer accepting payments at the point of sale, hospitality, internet, retail, catalogue and recurring billing. The privately held company is an end-to-end processor for merchants of all sizes and industries. The company processed approximately 18.2 billion transactions in 2006, with more than $660.6 billion in annual bankcard and debit volume. Chase Paymentech's customer base reflects the most respected brands in the world. It represents more than 600,000 merchants with nearly one million locations globally. Chase Paymentech is a joint venture between JPMorgan Chase & Co. and First Data Corporation." (Chase Paymentech Solutions, LLC 2007).

ALLIANCE DATA

"Alliance Data is the result of the 1996 merger of two entities acquired by venture capital firm Welsh, Carson, Anderson and Stowe: JC Penney's transaction services business (BSI Business Services, Inc.) and The Limited's credit card bank operation, World Financial Network National Bank. The company has more than 600 clients in industries including retail, petroleum, utility, financial services, insurance, hospitality and pharmaceutical markets. Alliance Data manages more than 120 million consumer relationships on behalf of some of North America's most recognizable companies. Alliance Data is the second-largest outsourcer of retail private label card programs in 2006, with 107 million accounts on file." (Alliance Data 2007).

UBS (UNITED BANK CARD SYSTEM)

UBS is owned by the First National Bank of Omaha. UBS UBC was ranked as the 32nd largest payment processing company by volume in 2005 and handles accounts for over 40,000 locations and process payments in excess of 3 billion dollars annually (United Bank Card System 2007).

RBS LYNK

RBS is the Royal Bank of Scotland. According to their website, RBS Lynk is a leading, single-source provider of electronic payment processing services - including credit, debit, EBT, checks, gift cards, e-commerce, customer loyalty cards, fleet cards, prepaid cards, ATM processing and cash management services. The U.S. payment processing division of the Royal Bank of Scotland Group plc, RBS Lynk is a non-bank subsidiary of Citizens Financial Group (RBSLynk 2007).

COMDATA

"More than 30 years ago, Comdata Corporation pioneered the concept of electronic funds disbursement to the ground fleet transportation industry. The versatile Comdata card is honored at more than 8,500 truck stops and service centers in North America. Developed initially for fleets to authorize and track fuel purchases and repair costs, the Comdata card is the centerpiece to a group of services that enable transportation businesses and fleets to operate more profitably Comdata offers a range of solutions to help manage fuel costs and optimize its clients' fueling networks with programs tailored for almost any business situation." (infoUSA, Inc. 2007)

MAJOR OIL COMPANIES

Most oil companies have operated their own proprietary card systems for decades. Each system has its own operating protocols and codes used to identify fuel purchases to fleet customers. The oil companies do not build their own dispensers or POS devices.[10] However, they contract directly with manufacturers to design and build dispensers and POS devices specifically designed to interface with their proprietary software. For example, Gilbarco Veeder-Root has developed new POS equipment and software for petroleum and convenience store sales called Passport®. Passport® integrates with the following proprietary card systems with integration to other systems under development (Gilbarco Veeder-Root 2007):

ADS Chicago	ADS-Dallas
Chevron and Texaco locations operating on Chevron network	CITGO
Concord/Buypass	Conoco-Phillips
ExxonMobil	Gulf
Sinclair	Valero
Shell	Sunoco

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[10] The market for petroleum POS devices is largely controlled by three manufacturers: Gilbarco Veeder-Root, Dresser-Wayne and Verifone.

Similar to the banking industry, many oil companies have decided that purchase card data processing is not a core part of the petroleum business. Many have contracted or sold these functions to third-party processors while retaining control of the brand image. One of the largest consolidators of oil company branded cards is FleetCor of Norcross, GA. FleetCor is the processor behind the CITGO, BP and Chevron branded fuel cards (FleetCor 2007). Appendix 4 provides a list of fleet cards that operate on proprietary (oil company) and non-proprietary card systems.

VALUE ADDED RESELLERS

The merchant has the choice of selecting and managing his own POS system or hiring an outside company to do all or part of the on-site POS equipment and software management. Companies providing these services to merchants are called Value Added Resellers (VARs) (McCarthy 2007). There are thousands of service providers advising merchants on the "best" selection of POS equipment, POS software, back office software and card processors. In addition to consulting, many of these companies sell, install, and maintain equipment and software for the merchants. A Google™ search will provide over a million hits on "petroleum POS equipment".

VARs would be expected to have a broader knowledge of the equipment and software parameters of petroleum POS systems because of broader exposure to multiple systems and issues. However, this review did not highlight any differences between levels of accuracy of level three fuel reporting from systems managed within the companies contacted or those managed by a VAR.

THE PROBLEM WITH LEVEL THREE FUEL CODES

Actually, there are multiple problems with level three fuel codes and most of them are created at specific retail outlets. There is even evidence that the accuracy of fuel reporting can vary within a company's outlets. The troubleshooting and correction of fuel coding errors must start with the specific reporting location and work its way up through the settlement transaction pathways. So, what are the problems? Here is a list of those identified.

- No fully accepted national standard for the coding of fuel type in level three data.
- No visibility of coding errors at the merchant's site.
- Incomplete understanding by merchants and VARs of POS equipment and software configurations that could support alternative fuel type reporting.
- Incomplete understanding by merchants and VARS of the differences between conventional fuels (E10, 6.7% gasohol, diesel) and alternative fuels (E85 and B20).
- Code translation and mapping errors between POS, site host, network, card processor, and company systems.

NATIONAL CODING STANDARDS

The global banking, credit and debit card systems are peppered with national and international standards of operation and detailed transaction and device specifications. These standards govern the size and shape of the purchase card, the location of the magstripe, communication

protocols for smart cards, and much more. These standards also govern the size and description of data fields. In some cases, these specifications clearly define the data contained in the fields. Unfortunately, there are no national standards for the data in the fuel type field and each acquirer, issuer, card association and card processor is free to define the data independently. Table 3 presents the alternative fuel codes from Voyager, MasterCard, and the Petroleum Convenience Alliance for Technology Standards (PCATS). The Voyager codes are the most complete for alternative fuels. This table highlights the differences between the codes associated with the alternative fuel (See Appendix 5 for a complete product code comparison).

Table 3 – Generic level three product codes				
Product	**Voyager Code**	**MasterCard Code**	**Visa Fleet Codes**	**PCATS Code**
BioDiesel	DO			48
CNG	59	16	17	22
E85	66	18	22	26
Liquid Natural Gas	201			24
Liquid Propane Gas	50	15	15	23
M85	64	17	18	25
Spec Motor Fuel LPG	62			

There is an additional issue with the product codes—the product description. Each card has its own descriptions for the fuels associated with its codes. In some cases, these descriptions are easily confused with other fuel descriptions used by the card company. For example, MasterCard has codes described by "E85", "Ethanol", and four grades of "Ethanol Unleaded". Which code should a VAR or site maintainer use for E85 and which code should be used for E10? Between the three standards listed, there are 43 different descriptions for unleaded gasoline and it is rare that the product descriptions are the same from one fleet card to another. *The fuel code terminology and coding is bound to cause confusion at the retailer's site.*

FUEL CODE ERRORS NOT VISIBLE TO MERCHANTS

The fuel codes are only apparent to the VAR, site installer or maintainer at the time the POS is upgraded or a new product is added that requires maintenance of the POS data. The actual code transmitted in the settlement transaction is not visible to the merchant. As long as the code is included in the proper data field, in the proper format, and matches one of the standard fuel codes provided by the card acquirer the transaction will pass all system validations. *Only the customer, who has visibility of both ends of the transaction, knows that the codes are incorrect. The responsibility for initiating corrective action is with the customer* (Robbins 2007, Turner 2007, Walden 2007).

POS CAPABILITIES

There is a wide range of POS equipment in service at retail fuel sites. Larger convenience store chains and major oil companies have more resources to keep equipment and software current. The appearance and function of dispensers, card readers, automated food ordering, and

scanning equipment is central to their marketing, customer service, and management of labor costs. However, a large percentage of existing alternative fuel retail sites are not part of large convenience store chains or major oil companies. These sites are often using outdated—but fully functional—POS equipment and software that might not support additional fuel coding options for alternative fuels.

There are two issues regarding POS capabilities. The first is that POS maintainers do not realize that their POS equipment and software can support codes for alternative fuels. The second is that older equipment and software may need to be replaced by 2010 to ensure continued operation with global financial systems that are undergoing major changes to improve data security.

POS SUPPORT OF ALTERNATIVE FUEL CODES

Two regional convenience store brands interviewed for this report used the same hardware and software for fuel dispensing islands—Gilbarco Veeder-Root dispensers and Gilbarco Veeder-Root's proprietary POS software called the G-SITE Point of Sale System. One of the regional E85 retailers stated that G-SITE software did not support codes for E85.[11] The other regional retailer stated the G-SITE did not have specific codes for E85 but that user assigned codes were available within G-SITE and that they used these codes to identify E85 sales.[12] Additional communication with Gilbarco Veeder-Root indicated that G-SITE could support the identification of E85 as a fuel product:

> "[G-SITE], like our newer Passport POS system, interfaces with several back office software vendor applications. That being said, the POS software for G-SITE is customized based on each network host or major oil requirements. These networks determine what product codes are used by G-SITE for describing fuel. If the customer (in this case the network or major oil) wants G-SITE to support E85 fuel, then they would request Gilbarco to make that change to the G-SITE software. Some networks/major oils have done this. For instance, the current releases of ADS Chicago and ExxonMobil support E85 fuel grade product codes. It's up to the network or major oil customer to request this change to the G-SITE software. Passport already supports E-85 fuel product codes, but again, it depends upon the network or major oil as to whether they want Passport to support E85 fuels." (Sebok, Gilbarco Veeder-Root, Manager, Retail Systems Third Party Relationships 2007)

POS SYSTEMS AND DATA SECURITY

The global credit card industry has agreed on major changes to security requirements during all phases of card processing. The PCI Data Security Standard (PCI DSS) will require major changes

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[11] Voyager FleetCommander® reports sales from this regional convenience store chain as purchases of premium-unleaded gasoline.

[12] Voyager FleetCommander® reports sales from this regional convenience store chain as purchases of of E85 except for one site premium unleaded gasoline.

in POS equipment and software by 2010. "PCI DSS calls for a set of 12 security controls, including encryption and transaction logging, with which retailers who process payment cards are expected to comply. Although the PCI standards went into effect a year and a half ago, most retailers only started paying close attention to the rules when credit-card companies announced they planned to fine those not in compliance." (Grondin-Francella 2007, 28)

The PCI DSS is a "set of comprehensive requirements for enhancing payment account data security [that] was developed by the founding payment brands of the PCI Security Standards Council, including American Express, Discover Financial Services, JCB, MasterCard Worldwide and Visa International, to help facilitate the broad adoption of consistent data security measures on a global basis. The PCI DSS is a multifaceted security standard that includes requirements for security management, policies, procedures, network architecture, software design and other critical protective measures. This comprehensive standard is intended to help organizations proactively protect customer account data." (PCI Security Standards Council, LLC 2007)

The three major fuel dispenser and POS manufacturers have established new product lines to meet the PCI DSS standards.[13] These product lines recognize alternative fuels as valid products and incorporate existing product code standards for these and conventional fuels. The PCI requirements are based on a retailer's size. Therefore, not all petroleum retailers will be required to meet full PCI requirements and hence will not replace existing POS equipment and software. However, companies interviewed for this report assume that manufacturers will phase out existing software over the next five to seven years. ***Taken all together, this will gradually improve support of alternative fuel codes within the next seven years.***

IDENTIFICATION OF ALTERNATIVE FUELS
The LMI review of 1.6 million DOD ground fuel transactions showed that a large number of conventional fuel retailers are reporting the sale of alternative fuels when, in fact, they do not carry alternative fuels (Bentley, et al. 2007, 2-10).[14] It appears that some retailers do not understand the difference between ethanol as an additive to gasoline and ethanol as E85. The product descriptions of the MasterCard, Voyager, Visa, and PCATS fuel codes do not help clarify this issue and in fact are the source of some confusion.

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[13] Gilbarco Veeder-Root has introduced the Passport® Point of Sale System; Dresser-Wayne has introduced the Nucleus® POS System; VeriFone has introduced the Topaz POS System. In some cases, dispenser systems may also require replacement.

[14] See Appendix 3 – List of retail gasoline sites reporting sales of E85 to DOD when E85 is not sold at the station; organized by state and then merchant name.

MASTERCARD has only limited codes for alternative fuels. There are no codes for biodiesel or biodiesel blends. The specific codes available are:
- o   Compressed Natural Gas [Code = 16]
- o   E85 (Ethanol 85%) [Code = 18]
- o   Liquid Natural Gas [Code = 201]
- o   LPG [Code = 15]
- o   M85 (Methanol 85%) [Code = 17].

However, MasterCard also describes its codes for ethanol-blended gasoline in a manner that could be confused with E85. These codes are:
- o   Ethanol / Leaded [Code = 23]
- o   Ethanol Regular Leaded [Code = 23]
- o   Ethanol Unleaded Mid Grade (88 or 89 octane) [Code = 20]
- o   Ethanol Unleaded Premium (90 or 91 octane) [Code = 21]
- o   Ethanol Unleaded Regular 86 or 87 octane) [Code = 19]
- o   Ethanol Unleaded Super (92-94 octane). [Code = 22]

VOYAGER FLEET SYSTEMS has a broader selection of codes for alternative fuels. There is only one code for biodiesel but it is not defined as any blend (e.g., B2, B5, B10, and B20). There are two codes for ethanol – one is described as "ethanol" and the other as "E85" which could be confused. The Voyager descriptions and codes for alternative fuels are:
- o   COMPR NAT GAS (CNG) [Code = 59]
- o   DIESEL BIO [Code = D0]
- o   E 85 [Code = 66]
- o   ETHANOL [Code = 53]
- o   LIQUIFIED NATURAL GAS [Code = 67]
- o   M 85 [Code = 64]
- o   METHANOL [Code = 52]
- o   NATURAL GAS [Code = 51]
- o   PROPANE [Code = 50]

VISA Fleet has a broad range of fuel codes. However, they do not have any code for any blend of biodiesel. VISA Fleet has a full range of codes methanol blended gasoline and ethanol blended gasoline. Interestingly, VISA Fleet also has a code for a 16 percent gasohol. The VISA Fleet descriptions and codes for alternative fuels are:
- o   CNG [Code = 17]
- o   Ethanol—10 [Code = 23]
- o   Ethanol—5 [Code = 25]
- o   Ethanol—7 [Code = 24]
- o   Ethanol—85 [Code = 22]
- o   LPG [Code = 15]
- o   Methanol—10 [Code = 19]
- o   Methanol—5 [Code = 21]
- o   Methanol—7 [Code = 20]
- o   Methanol—85 [Code = 18]

PCATS[15] is a cooperative effort to establish broad business-to-business electronic transaction standards for the convenience store industry. An estimated 40 percent of the convenience store industry has adopted PCATS POS codes as the "industry POS standard". Wright Express has converted completely to PCATS (Robbins 2007). The PCATS descriptions and codes for alternative fuels are:

- o   B10 Diesel Blend 10% BioDiesel [Code = 047]
- o   B100 Diesel Blend 100% BioDiesel [Code = 051]
- o   B11 Diesel Blend 11% BioDiesel [Code = 048]
- o   B15 Diesel Blend 15% BioDiesel [Code = 049]
- o   B2 Diesel Blend 2% BioDiesel [Code = 045]
- o   B20 Diesel Blend 20% BioDiesel [Code = 050]
- o   B5 Diesel Blend 5% BioDiesel [Code = 046]
- o   E-85 [Code = 026]
- o   Liquid Natural Gas [Code = 024]
- o   Liquid Propane Gas [Code = 023]
- o   M-85 [Code = 025].

PCATS definitions for ethanol-blended fuels could be confused with E85 but are more distinctive than the MasterCard codes. PCATS does not have any specific codes for gasohol (E10) or a 7.7% premium blend. The existing PCATS descriptions and codes for gasoline blended with ethanol are:

- o   Unleaded Ethanol (5.7% blend) by grade [Codes = 12, 12, and 13]
- o   Unleaded Ethanol (7.7% blend) by grade [Codes = 14 and 15]

CODE TRANSLATION AND MAPPING

Level three codes for fuels must be correctly entered into the POS for each card that is used by the merchant. Appendix 5 contains the most current available product descriptions and codes for MasterCard, PCATS, and Voyager. These codes must be mapped to equivalent codes in the on-site host if it runs different software than the POS. These codes must also be mapped to the back office accounting software and the corporate accounting system. Then these codes must be mapped to the intermediate network if required. There can be as many as six mapping events in a clearing transaction that must be correct for the fuel type to appear correctly on a fleet report. There are one-to-many and many-to-one code relationships to consider. And, the mapping also needs to work in reverse in the event that there are charge backs on disputed transactions. Figure 3 illustrates a generic pathway for clearing transactions containing level

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[15] The Petroleum Convenience Alliance for Technology Standards, PCATS, was an outgrowth of a National Association of Convenience Stores (NACS) Technology Standards Project. The initial project focused its developmental efforts in the areas of network and system integration, business-to-business document exchange and payment systems. PCATS has expanded these standards and promotes implementation of these standards by industry's retailers and suppliers (Petroleum Convenience Alliance for Technology Standards 2004).

three fuel code data and shows the six potential interfaces where codes may need to be mapped from one system to another.

FIGURE 3 – GENERIC PATHWAY FOR CLEARING TRANSACTIONS CONTAINING LEVEL THREE DATA.
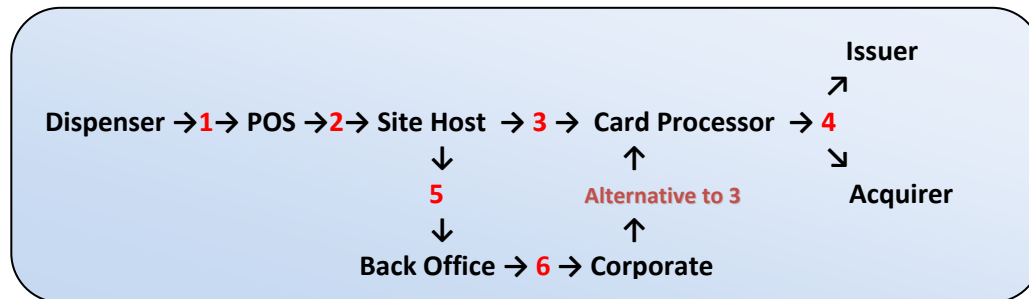
One company interviewed stated that it was a "constant and sometimes losing battle" to ensure that product codes—for all products—were correct across their corporate systems and interfaces to outside systems. The product code received by the fleet manager at the end of the process is only as good as the weakest link in the clearing transaction pathway. Wright Express has implemented the full PCATS standards (Robbins 2007) and claims that this eliminates data mapping between systems and errors in level three data.

The use of PCATS codes for fuel and other convenience store business-to-business electronic commerce is clearly catching on across the convenience store industry and with POS equipment and software manufacturers. This observation is based on the dramatic increase in PCATS membership between 2005 and 2007 (Appendix 6). Interviews with retailers and card processors supported the establishment of a single standard for fuel codes. However, each card issuer would need to phase in these changes over an existing proprietary set of standards. These changes would impact retailers, VARs, ISOs and others in the financial network. ***While the federal government might be able to encourage the use of a single standard, it is unlikely that the federal government could legislate or regulate a standard.*** PCATS codes appear to be the standard of choice.

COMPANIES CONSULTED

Vista Consultants identified a wide sample of companies in the fleet card and petroleum retail industries as well as state government regulatory agencies and attempted to contact them for this project. Most were forthcoming with information and suggestions. Some companies were willing to discuss the reporting of alternative fuels and fuel transactions off the record only. Some did not respond to correspondence or telephone calls. More companies can and should be brought into a continuing dialog about alternative fuel level three data reporting. What follows is a compilation of comments from these companies.

SUMMARY OF COMMENTS

- Corrections to product codes must be customer driven.
- Only the customer sees both ends of a transaction.
- Most level three errors start at the individual site POS.

- Store managers typically do not know what codes are being used in the POS.
- Store managers often do not know the specific grade of fuel being sold. Their knowledge is often limited to "diesel" or "regular grade gasoline".
- System installers and maintainers depend on the store manager to tell them what fuels are being sold.
- Customers must put pressure on the fleet card system by rejecting charges that do not have correct product codes. This will result in a charge back to the retailer. This is the best way to get immediate attention to the issue at the specific site.
- Customers should request fleet cards "lock out" sites—after notification and a reasonable period of time—that cannot fix reporting errors.
- The issue of incorrect fuel codes should be addressed in the trade press and industry site blogs.
- The Department of Energy and General Services Administration should request time to address this issue at national and regional trade conferences.
- Back office software providers should be advised of this issue and be requested to help resolve it in upgrades and new software.
- SmartPay®2 task orders should require fleet cards to address this issue when identified by the federal government or other activity.
- The Department of Energy should evaluate, with the National Institute of Standards and Technology, the value national guidelines or state legislation to make weights and measures offices review "forecourt" fuel coding to ensure accuracy at the site. State weights and measures offices are one of the fuel regulatory agencies that understands dispensers and interfaces to POS equipment and software. However, they do not currently consider the electronic transaction and accurate reporting to the consumer of the fuel type purchased on the receipt or through the financial system part of their charter.[16]

RECOMMENDED SOLUTIONS

There is no "silver bullet" to fix alternative fuel reporting issues so that federal and state governments can monitor and report accurately the amount of alternative fuels purchased at commercial retailers. As one interviewee stated, "The problem is painfully simple to define but infinitely complex to fix." However, there are a number of concurrent actions that can begin to address the issue and resolve it over time. A process is required to get the data, analyze the data, advise the fleet card company and the retailer of problems, and, as necessary lock out the vendor from sales to federal fleets. An active outreach program to the merchants, networks, manufacturers, and card processors is also recommended.

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[16] Following this recommendation, Vista Consultants spoke to directors and employees of state weights and measures offices in Iowa, Kansas, Minnesota, Missouri, North Carolina, and North Dakota. None of these offices were of the opinion that their responsibilities included the correct reporting of the fuel type to the consumer. For a list of all state weights and measures offices, see Appendix 7.

GET THE DATA

It is *essential* that the federal government fleets periodically capture both ends of alternative fuel transactions and check both the receipt and the final fleet card report for accuracy. *Legitimate GSA and federal agency concerns about the access to transaction data need to be resolved before starting any process to address inaccurate fuel coding.*

The merchant code and product code from GSA fleet purchase card data—combined with fleet card merchant codes and addresses and AFDC station listings—is sufficient to identify those locations that are reporting sales of alternative fuels where there is no alternative fuel. However, to identify those alternative fuel retailers that are not reporting both sides of the transaction correctly requires knowledge of what was purchased, what was reported on the receipt, and what was reported through the fleet card. To achieve this end, it will be necessary for someone to visit a site, refuel, obtain a receipt, forward the receipt to a central point, and to reconcile the receipt with the fleet card report. GSA was successful in sending CSRs to over 200 alternative fuel sites in February 2007 and was able to reconcile the receipts to the Voyager FleetCommander® reports about 45 days afterward. This cannot be a one-time process. Monitoring needs to take place on continuing semi-annual basis to ensure that retailers fix their codes and that the codes remain fixed.

There are three potential avenues available to obtain both ends of alternative fuel transactions and provide monitoring over time.

CLEAN CITIES

Clean Cities Coordinators could obtain fleet cards and be asked to visit and refuel at all alternative fuel sites in their region during each six-month period. They would obtain fleet card reports and then, as necessary, work directly with the Clean Cities Coalition and local vendors to address the problem locally. The Clean Cities Coordinator would prepare a semi-annual report on the fuel reporting status of all stations visited to the Department of Energy. GSA and DoE could take further action if a site repeatedly fails to report alternative fuel sales correctly.

GSA CUSTOMER SERVICE REPRESENTATIVES

As in GSA's February 2007 effort, GSA Fleet would task CSRs to visit all alternative fuel sites in their regions during a specified period and forward receipt and vendor data to GSA for reconciliation. It would then be necessary for someone to address improperly reported fuel purchases with specific sites. GSA and DoE could take further action if a site repeatedly fails to report alternative fuel sales correctly.

AGENCY FLEET MANAGERS

Each agency could task fleet managers with monitoring retailer receipts and fleet card reports on an ongoing basis. The agency could task the local fleet manager to approach the site owner or centralize the collection of receipts and reconciled fleet reports so that the vendor could be approached from a regional or headquarters employee. If advised of ongoing issues by the agency, GSA and DoE could take further action if a site repeatedly fails to report alternative fuel sales correctly.

CONSOLIDATED RESPONSE TO TRANSACTION DATA

The federal government would have more influence over fleet cards and alternative fuel retailers if the effort to monitor, report, and address identified issues was consolidated to one agency or contractor. This would permit a consistent process and more effective approach to commercial industry. Significant cooperation from federal agencies would be required.

SMARTPAY®2 CONTRACT AND TASK ORDER RECOMMENDATIONS

A universal comment from the companies interviewed was that *the customer needed to make the alternative fuel retailer feel the pain.* The first way to achieve this end is to dispute inaccurate transactions back to the fleet card. The second way to achieve this end is to discourage or eliminate agency refueling at the specific site.

DISPUTE INACCURATE FUEL TRANSACTIONS

Federal agencies are now preparing and competing task orders for purchase cards under the SmartPay®2 contract.   Under the SmartPay®2 contract, clause C.1.18.1.11 Billing Discrepancies, "The agency/organization is responsible for notifying the Contractor of any items in dispute and shall have 90 calendar days from the date that the transaction was processed to initiate a dispute." (U.S. General Services Administration 2007) Under the clause, the card contractor must investigate the disputed items and chargeback the merchant where appropriate. (For the full clause, see Appendix 8.) However, the contract does not contain information on the specific issues that are subject to dispute. Vista Consultants recommends that federal agencies clarify the billing dispute clause in task orders by:

> **Specifying that inaccurately reported fuel types on transactions qualify as billing discrepancies subject to the Billing Discrepancies clause.**

RESTRICT REFUELING AT SPECIFIC SITES

This report and interviews of federal fleet managers assumes that accurate alternative fuel reporting through fleet cards is the *primary* requirement of federal fleets to meet current statutory and E.O. requirements. If this is true, then the diversion of federal fleets to retailers who report alternative fuel sales correctly is critical to compliance. Agency policy and direction to local fleet managers might effectively discourage the use of retailers who cannot report correctly. However, fleet cards have the ability to "lockout" specific sites. This would force agency vehicles to use other sites that do report correctly. Therefore, Vista Consultants suggests that federal agencies clarify the billing dispute clause in task orders by:

> **Specifying that repeated discrepancies by a specific site will require, upon reasonable notice**

Federal fleets have the potential of increasing alternative fuel use in alternative fuel vehicles by "locking out" the use of the fleet card by alternative fuel vehicles at gasoline only retailers in the near proximity of an alternative fuel retailer. Gasoline retailers beyond a reasonable distance of the alternative fuel retailer would not be locked out.

> *to the vendor and card contractor by the agency, that the site be "locked out"*
> *for all of that agency's business using the contracted fleet card.*

PUBLISH LIST OF VENDORS WITH INACCURATE ALTERNATIVE FUEL REPORTING

Vista Consultants recommends that agencies publish—individually or collectively—periodic lists of those retail sites that have repeatedly failed to report the sale of alternative fuels properly. These lists could help discourage fleet use of these sites and provide additional motivation to get the coding correct. The lists could be published on the AFDC website, in the Fleet Automated Statistical Tool (FAST), and provided to various organizations that promote alternative fuels (e.g., National Ethanol Vehicle Coalition, National Biodiesel Board, and Ethanol Promotion and Information Council) or represent industry (e.g., PACTS and the National Association of Convenience Stores (NACS)). To be fair, these lists would need to be updated on a regular basis.

EDUCATION AND OUTREACH

The importance of educating manufacturers, installers, VARs, ISOs, issuers, acquirers, and processors cannot be over estimated. As the data shows, many of the inaccurate reporting issues can be resolved at the retailers' locations. However, the retailers must be educated that misreporting of fuel transactions—especially alternative fuels—is common and is primarily an issue that must be solved at individual sites. DoE should request time to make presentations on the federal and state requirements for accurate reporting at national and regional trade shows. DoE should also reach out to industry trade associations and the trade press with information and articles on level three fuel reporting.

TRADE ORGANIZATIONS

Some of the trade organizations include:

- Society of Independent Gasoline Marketers of America (SIGMA)
- Petroleum Convenience Alliance for Technology Standards (PCATS)
- National Association of Convenience Stores (NACS)
- The Petroleum Marketers Association of America (PMAA)
- Regional and State Petroleum Marketers Associations[17] such as:
  - Petroleum & Convenience Marketers of Alabama (P&CMA)
  - Petroleum Marketers & Convenience Stores of Iowa
- Petroleum Equipment Institute (PEI) (See Appendix 9.)

TRADE PRESS

Some of the trade press include periodicals published by the trade organizations. Other identified trade press includes:

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[17] For a hyperlinked list of PMAA Member Associations see
http://www.pmaa.org/member_associations/index.asp

- Convenience Store News
- Convenience Store News for the Single Store Owner
- The Nilson Report
- Progressive Grocer (for alternative fuel stations operated by grocery chains)

DoE Alternative Fuel Grant Programs

DoE's alternative fuel grant programs have provided significant co-funding for the establishment of alternative fuel infrastructure. Some of this federally funded infrastructure is the source of incorrect level three product codes. DoE's alternative fuel grant programs for alternative fuel infrastructure should require that the grantee demonstrate that sales of alternative fuels are properly reported through all accepted federal government fleet cards before the final grant payment is made. This will ensure that the grantee has an interest in setting up dispensers and POS equipment correctly and that purchases by the federal government in future years will be reported correctly.

Conclusion

The accurate reporting of alternative fuel use by federal fleets depends on accurate level three reporting by commercial alternative fuel refueling stations. Commercial refueling stations have no visibility of the product information ultimately delivered to the customer. Over 65% of the data currently reported is incorrect. It is the customer's responsibility to dispute all transactions without proper fuel information. This, however, requires new work for the fleet managers in federal agencies who must now track—at least periodically—the data provided at both ends of fleet card clearing transactions. There are a number of options for gathering the necessary data. A federal fleet-wide approach to collect data on incorrect level three fuel reporting is called for. However, the analysis of data and actions taken would be more consistent and efficient if consolidated with one agency or contractor.

Federal fleet managers should take every opportunity to encourage the retail alternative fuels industry to remedy the reporting issues cited in this report. The alternative is to accept the status quo. The resolicitation of agency task orders under the SmartPay®2 contract provides an opportunity to manage the refueling of flexible fuel vehicles through hose level authorization controls and other purchase card management policies that would encourage industry correction of reporting issues and fleet use of alternative fuels. In any case, SmartPay®2 contract task orders should include provisions that allow the dispute of billing transactions that do not include the proper fuel codes.

Education, outreach, and coordination with industry are essential components of the solution. Industry must understand the differences between alternative fuels at individual sites and the importance of reporting correctly. As much as practicable, this effort needs to coordinated and collaborative with industry trade associations.

Appendices

APPENDIX 1 - TASK ORDER AWARDS AGENCIES AND ORGANIZATIONS

AGENCY	FLEET CARD
Appalachian Regional Commission	See Commerce
Architect of the Capitol	See VA
Consumer Product Safety Commission	Bank of America – Voyager and MasterCard
Corporation for National Service	Bank of America – Voyager and MasterCard
Department of Agriculture	Bank of America – Voyager and MasterCard
Department of Commerce	Citi Bank – MasterCard and Voyager
Department of Defense	U.S. Bank - Voyager - Voyager
Department of Education	Bank of America – Voyager and MasterCard
Department of Energy	Bank of America – Voyager and MasterCard
Department of Energy (HQ only)	JPMorganChase - MasterCard
Department of Health and Human Services	U.S. Bank - Voyager
Department of Housing and Urban Development	JPMorganChase - MasterCard
Department of Homeland Security	JPMorganChase - MasterCard
Department of Interior	Bank of America – Voyager and MasterCard
Department of Justice	JPMorganChase - MasterCard
Department of Labor	Citi Bank – MasterCard and Voyager
Department of State	Citi Bank – MasterCard and Voyager
Department of State, U.S. Agency for International Development	See State
Department of Transportation	JPMorganChase - MasterCard
Department of Treasury	Citi Bank – MasterCard and Voyager
Department of Veterans Affairs	Citi Bank – MasterCard and Voyager
District of Columbia Public Benefit Corporation	JPMorganChase - MasterCard
District of Columbia, Court Services & Offender Supervision Agency for the	See Justice
Environmental Protection Agency	JPMorganChase - MasterCard
Equal Employment Opportunity Commission	JPMorganChase - MasterCard
Export-Import Bank of the United States	See State
Farm Credit Administration	See DOI
Federal Communications Commission	See DOI
Federal Emergency Management Agency	JPMorganChase - MasterCard
Federal Energy Regulatory Commission	See DOE
Federal Mediation and Conciliation Services	See VA

AGENCY	FLEET CARD
General Services Administration	IFMS - Citi Bank – MasterCard and Voyager
General Services Administration	Non-IFMS – JPMorganChase - MasterCard
General Services Administration (Pool)	JPMorganChase - MasterCard
Government Printing Office	See DOI
International Boundary and Water Commission	See State
International Boundary Commission	See State
Kennedy Center, The	JPMorganChase - MasterCard
Library of Congress	See VA
Merit Systems Protection Board	See USDA
National Aeronautics & Space Administration	Bank of America – Voyager and MasterCard
National Transportation Safety Board	See VA
Nuclear Regulatory Commission	Citi Bank – MasterCard and Voyager
Office of Federal Housing Enterprise Oversight	See Commerce
Office of Personnel Management	JPMorganChase - MasterCard
Securities and Exchange Commission	JPMorganChase - MasterCard
Smithsonian Institution	JPMorganChase - MasterCard
Supreme Court of the United States Marshal's Office	JPMorganChase - MasterCard
U.S. International Trade Commission	JPMorganChase - MasterCard
U.S. Peace Corps	See State

(Federal Supply Service, General Services Administration 2002), (Dunn 2007)

APPENDIX 2 – E85 STATIONS WHERE GSA CUSTOMER SERVICE REPRESENTATIVES REFUELED WITH E85 SHOWING RECEIPT AND VOYAGER FLEETCOMMANDER® DATA.

STATION NAME	STATION ADDRESS	CITY	STATE	ZIP	PHONE NUMBER	Fuel type on Receipt	Voyager FleetCommander® Product Codes
218 Fuel Express	68 Monroe Street	Floyd	IA	50435	641-398-2390	E 85	E 85
Acorn	13690 E Colfax Avenue	Aurora	CO	80011	303-344-0445	E85	E85
Acorn	305 S 8th Street	Colorado Springs	CO	80905	719-633-8423	E85	E85
Acorn	108 Baxter Road	Pueblo	CO	81006	719-948-4537	E85	E85
Acorn	1041 N Colorado Avenue	Brush	CO	80723	970 842 3122	E85	E85
Agri Valley Cenex	1104 N Main	Drayton	ND	58225	701-454-6277	Premium	E85
Airport Travel Center - Cenex	4707 E Highway 12	Aberdeen	SD	57401	605-725-9100	E85	SUPR
All Points Cooperative - Ampride	202 8th Street	Gothenburg	NE	69138	308-537-3405	E-85	ETHANOL
Amigo Mart	1229 Cerrillos Road	Santa Fe	NM	87505	505-954-4522	E-85	E85
Amigo Mart	4354 Cerrillos Road	Santa Fe	NM	87507	505-424-3076	E-85	E85
Ampride	121 N Floyd Avenue	Hinton	IA	51024	712-947-4545	E-85	ETHANOL
Barns Conoco Store	295 S Broadway	Denver	CO	80209	303-765-5580	E85	E85
BC Truck Plaza Ampride	506 Highway 59 N	Denison	IA	51442	712-263-9371	E85	UNLEADED
Bird Oil Company - Phillips 66	10th & Main	Great Bend	KS	67530	620-793-8577	E-85	7.7% GASOHOL
Blair's Fast Stop - Agriland FS	2401 12th Street	Harlan	IA	51537	712-755-2324	E-85	ETHANOL
Bob's Automotive & Gas	9694 SE 82nd Avenue	Portland	OR	97266	503-788-0545	E85	UNL+
Bonneville Power Admin	5411 NE Highway 99	Vancouver	WA	98663		T-834"E	BL10
Bosselman Travel Center	1944 N 9th Street	Salina	KS	67401	785-825-6787	E85 Ethanol	AVIATION
BP - Elliott Oil Company	100 First Street	Batavia	IA	52533	641-662-2700	E-85	E 85
Break Time Convenience Store	8314 Liberty Road	Jefferson City	MO	65101	573-395-4064	5	E 85
Break Time Convenience Store	300 Washington	Chillicothe	MO	64601	660-646-2044	E85	E 85
Break Time Convenience Store	3000 West Truman Boulevard	Jefferson City	MO	65109	573-893-4677	E85	E 85

STATION NAME	STATION ADDRESS	CITY	STATE	ZIP	PHONE NUMBER	Fuel type on Receipt	Voyager FleetCommander® Product Codes
Break Time Convenience Store	808 East Broadway	Sedalia	MO	65301	660-826-3228	E-85	E 85
Break Time Convenience Store	1416 Old 63 South	Columbia	MO	65201	573-442-4407	E-85	
Break Time Convenience Store	4 Business Loop 70 West	Columbia	MO	65203	573-874-1830	E-85	E 85
Break Time Convenience Store	2600 Highway Boulevard	Higginsville	MO	64037	660-584-2444	E-85	E 85
Break Time Convenience Store	1000 West College Street	Marshall	MO	65340	660-886-6562	E-85	E 85
Break Time Convenience Store	701 South Maguire	Warrensburg	MO	64093	660-747-3012	E-85	E 85
Break Time Convenience Store	402 North Woodbine	St Joseph	MO	64502	816-233-2554	E-85	E 85
Break Time Convenience Store #3025	1410 Forum Boulevard	Columbia	MO	65203	573-446-3213	E-85	DIESEL
Break Time Convenience Store #3028	110A East Nifong	Columbia	MO	65203	573-499-0030	E-85	DIESEL
Break Time Convenience Store #3036	2101 West Ash Street	Columbia	MO	65203	573-445-7425	E-85	DIESEL
Break Time Convenience Store #3089	100 West Highway 40	Sweet Springs	MO	65351	660-335-6651	E85	E 85
Breaktime Convenience Store	200 North Providence	Columbia	MO	65203	573-443-0621	E-85	E 85
Brookings BP	2420 6th Street	Brookings	SD	57006	605-692-6880	E85	UNLD
Brownie's Marathon	3864 York Street	Sharon	SC	29742	803-927-7202	E85	UNLD
Buffalo Station Sinclair	5 East Highway 12	Ipswich	SD	57451	605-426-6288	E85	SUPR
Burke Oil	1200 E King Avenue	Chamberlain	SD	57325	605-734-6905	E85	UNLD
C&T Oil Company #2	8601 East Golf Links Road	Tucson	AZ	85730	520-721-2483	Ethanol	UNLEADED PLUS
Caton's Grocery	5416 Statesville Road	Charlotte	NC	28269	704-597-0684	None	UNLD
Cenex	1160 West Divide Avenue	Bismarck	ND	58501	701-258-0266	E85	E85
Cenex	102 S Langer	Casselton	ND	58012	701-347-4416	E85	E85

STATION NAME	STATION ADDRESS	CITY	STATE	ZIP	PHONE NUMBER	Fuel type on Receipt	Voyager FleetCommander® Product Codes
Cenex	310 Dakota Avenue	Harwood	ND	58402	701-282-8290	E85	E85
Cenex - Frontier Equity	1202 West Highway 24	Goodland	KS	67735	785-899-3681	E85 Gasohol	ETHANOL
Cenex Ampride	1102 South Highway 169	Smithville	MO	64089	816-532-4450	Unknown	UNLEADED
Cenex Ampride - Agland	1607 2nd Avenue	Greeley	CO	80631	970-454-3391	E85	E85
Cenex Ampride - Fort Dodge	3243 5th Avenue South	Fort Dodge	IA	50501	515-573-7512	E85	ETHANOL
Cenex Coop	701 4th Avenue W	Spencer	IA	51301	712-262-6650	E-85	ETHANOL
Cenex C-Store	1000 S Burr Street	Mitchell	SD	57301	605-996-9632	E85	E85
Cenex Farmers Union Oil Company	600 Highway 2 W	Devils Lake	ND	58301	701-662-8778	E85	E85
Cenex Main Station	241 West Main Street	New Town	ND	58763	701-627-3636	Unld 90/91	SUPR
Cenex Oil Company	2030 Lazelle Street	Sturgis	SD	57785	605-347-3305	E85	UNLD
Cenex Petro Serve	3902 Main Avenue	Fargo	ND	58103	701-281-0417	E85	E85
Cenex PetroServ	2921 North Broadway	Fargo	ND	58102	701-293-2089	E85	E85
C-Express	2303 SE 6th Avenue	Aberdeen	SD	57401	605-229-5482	E85	UNLD
Chevron Service Center	3240 Fort Meade Road	Laurel	MD	20724	410-880-4740	05 Other Fuel	MARN
Christensen Oil Company	524 North 1500 West	Orem	UT	84058	801-373-7970	E85	UNLD
Christensen Oil Company	595 South 200 East	Provo	UT	84605	801-373-7970	E85	SUPR
Citgo	500 Main Street	Nashville	TN	37206	615-244-3828	**Ethanol**	SUPR
Citgo	2042 West Street	Annapolis	MD	21041	410-571-9676	GASOH	BL10
CleanFuel USA	4023 Interstate 35 N	San Antonio	TX	78219	512-942-8300	E-85	UNLD
Conoco	200 E facility Hanford Site	Hanford	WA	99354	n/a	E-85	E85
Conoco Convenient Mart	701 Eastland Drive	Jefferson City	MO	65101	573-635-8834	E85	E 85
Convenient Food Mart	3714 W Truman Boulevard	Jefferson City	MO	65109	573-893-3278	E85	E 85
Coop Gas & Oil	153 North Main Street	Sioux Center	IA	51250	712-722-2501	UNLEADED PRE	UNLEADED SUPER
Cork N Bottle	1500 Broadway	Yankton	SD	57078	605-665-3881	Ethan85	UNLD

STATION NAME	STATION ADDRESS	CITY	STATE	ZIP	PHONE NUMBER	Fuel type on Receipt	Voyager FleetCommander® Product Codes
Corner Pantry #137 - Shell	501 North Guignard Drive	Sumter	SC	29150	803-774-3907	DIES	DISL
Country Line Mart	609 East Broadway	Keota	IA	52248	641-636-2412	ETHANL85	UNLEADED
Cowboy Country Store 6	620 N Euclid Avenue	Pierre	SD	57501	605-224-1939	E85	E85
Cruizers #20	1914 Sedwick Road	Durham	NC	27713	919-806-3458	E85	E85
Cubby's Food Store	601 S 13th Street	Omaha	NE	68102	402-341-2900	E85	E 85
DJ's Travel Center	459 Custer Avenue NE	Huron	SD	57350	605-352-7435	E85	UNLD
Don's Car Wash	2727 13th Ave. S	Fargo	ND	58102	701-280-0010	E85	E85
Draper Chevron	267 West 12300 South	Draper	UT	84020	801-816-1665	E85	BL77
Dulaney Oil Company Limited	144 Dents Run Road	Morgantown	WV	26501	304-296-3911	E85	ETHN
East Gate Express	22993 Professional Lane	Lebanon	MO	65536	417-532-8112	ETHA CR #02	UNLEADED PLUS
F&M Cooperative Oil	45316 Highway 34	Madison	SD	57042	605-256-4516	E85	E85
Fam Service Company - Ampride	4040 South Expressway	Council Bluffs	IA	51501	712-323-7167	E85	ETHANOL
Farmers Cooperative Elevator	307 Van Gorden Avenue	Graettinger	IA	51342	712-859-3204	E-85	6.7% GASOHOL
Farmers Union Oil Company	516 Parke Avenue	Portland	ND	58274	701-788-3760	E85	SUPR
Farmers Union Oil Company - Cenex	615 Minnie Avenue	Wilton	ND	58579	701-734-6312	E85	E85
Farmers Union Oil of Southern Valley Cenex	2019 9th Street North	Wahpeton	ND	58075	701-642-8035	E85	E85
Farmland Cooperative Ampride	617 Main Avenue	Oakes	ND	58474	800-657-8022		E85
Fill & Food - Total	701 32nd Avenue	Council Bluffs	IA	51501	712-366-5453	E85	UNLEADED
Fillers #24 Shell - Davis Oil Company	101 Marshallville Road	Perry	GA	31069	478-987-8061	E85	UNLD
Flying J	6400 N I-90 Service Road	Rapid City	SD	57709	605-342-5450	Gasohol	E85
Galva Holstein Ag, LLC	1583 Market Avenue	Galva	IA	51020	712-282-4218	E-85	ETHANOL

STATION NAME	STATION ADDRESS	CITY	STATE	ZIP	PHONE NUMBER	Fuel type on Receipt	Voyager FleetCommander® Product Codes
Gas City	2275 Buffalo Soldier Trail	Sierra Vista	AZ	85635	520-439-5700	Ethanol	ETHANOL
Gas N Goodies - Phillips	1106 South 5th Street	Aberdeen	SD	57401	605-226-1944	E85	KERO
Gas N Shop	1545 Cornhusker Highway	Lincoln	NE	68521	402-435-7301	E85	UNLEADED
Gasland USA #3 - Thomas Petroleum	919 South Lafayette Street	Shelby	NC	28152	704-480-9733	E85	BL57
Gasland USA #7	1801 E Dixon Boulevard	Shelby	NC	28152	704-484-9175	None	SUPR
Gasland USA #9	1121 Hyatt Street	Gaffney	SC	29342	864-489-0037		SUPR
Gervais Street Exxon	1421 Gervais Street	Columbia	SC	29201	803-799-0217	E85	E85
Get N Go #12	1224 E 57th Street	Sioux Falls	SD	57106	605-357-0880	E85	BL57
Get N Go #14	5100 S Louise Avenue	Sioux Falls	SD	57106	605-362-0504	E85	E85
Get N Go #15	6729 W 41st Street	Sioux Falls	SD	57106	605-362-0435	E85	BL57
Get N Go #16	2401 S Louise Avenue	Sioux Falls	SD	57106	605-362-5266	E85	BL57
Get N Go #2	1500 W 12th Street	Sioux Falls	SD	57104	605-332-6668	E85	BL57
Get N Go #5	611 S Cliff Avenue	Sioux Falls	SD	57103	605-334-8799	E85	BL57
Get N Go #7	600 S Minnesota Avenue	Sioux Falls	SD	57103	605-332-7466	E85	BL57
Green Mountain Shell	12410 W Alameda Parkway	Lakewood	CO	80228	303-989-7820	E85	UNLD
H-E-B	17460 IH-35 North	Schertz	TX	78154	210-651-4148	E 85	N/A
Highland Travel Plaza	2160 Highland Way	Mitchell	SD	57301	605-995-5091	E85	UNL+
Highway 34 Truckstop - Texaco	Highway 34 & 406	West Burlington	IA	52655	319-752-9809	MANUAL FUEL	
Hill Petroleum - Sinclair Oil	6301 West 58th Avenue	Arvada	CO	80002	303-423-3446	E85	UNLD
Homer's Truck Stop of Statesville	306 Stamey Farm Road	Statesville	NC	28677	704-871-8008	E85	UNLD
Hotspot	4708 West Charleston Boulevard	Las Vegas	NV	89102	702-294-0101	Ethanol	7.7% GASOHOL
Hy-Vee	605 South 51st Street	West Des Moines	IA	50265	515-225-2937	E-85	UNLEADED

STATION NAME	STATION ADDRESS	CITY	STATE	ZIP	PHONE NUMBER	Fuel type on Receipt	Voyager FleetCommander® Product Codes
JP's American Car Care	1350 East 700 South	Clearfield	UT	84105	801-773-1640	Kerosene	KERO
Kangaroo Express as of 02-13-07	3500 North Monroe Street	Tallahassee	FL	32304	850-562-1159	E85	UNLD
Kroger #315	1705 Fry Road	Katy	TX	77449	281-398-0440 x234	E-85	KERO
Kroger #343	8323 Broadway	Pearland	TX	77584	281-997-6400	E-85	KERO
Kroger #362	17455 Spring Cypress	Cypress	TX	77429	281-304-0859 x226	E-85	KERO
Kroger #366	12484 Tomball Parkway	Houston	TX	77086	281-272-0050	E-85	KERO
Kroger #374	8550 Highway 6 North	Houston	TX	77095	281-463-4573	E-85	KERO
Kroger #389	6616 FM 1488 Road	Magnolia	TX	77354	936-271-3254	E-85	KERO
Kum N Go	1910 SW White Birch Circle	Ankeny	IA	50021	515-289-0874	UNLALCO	UNLEADED
Kum N Go	141 South Jordan Creek Parkway	West Des Moines	IA	50266	515-221-3536	UNLALCO	
Kum N Go	2905 4th Avenue S	Clear Lake	IA	50428	641-357-6041	UNLALCO	UNLEADED
Kum N Go	2801 13th Street	Ames	IA	50010	515-233-0359	UNLALCO	UNLEADED
Kum N Go - Cenex	806 W Sioux Avenue	Pierre	SD	57501	605-224-9746	UNLALCO	DISL
Kum N Go #4	2091 E Main Street	Lamoni	IA	50140	641-784-7400	UNLALCO	UNLEADED
Kum N Go #625	7100 West 41st Street	Sioux Falls	SD	57106	605-361-5547	Unlalco	UNLD
Kwik Shop #728	5340 N Maize Road	Maize	KS	67101	316-722-6302	E-85	UNLEADED PLUS
Kwik Stop Key West Conoco	2150 Twin Valley Drive	Dubuque	IA	52003	563-583-8011	UNKNOWN	E 85
Linn Cooperative Oil Company	325 35th Street	Marion	IA	52302	319-377-4881	E-85	UNLEADED SUPER
Loma Catalina Mart - Diamond Shamrock	2075 W Ruthrauff	Tucson	AZ	85704	520-323-2755	Ethanol	UNLEADED
M&M Cooperative C-Store	600 E 8th Avenue	Yuma	CO	80759	970-848-5479	E85	E85
Marcus Junction	406 Highway 3	Marcus	IA	51035	712-376-2402	E 85	UNLEADED PLUS
Marko's I-94 BP Amoco	2501 23rd Avenue SW	Fargo	ND	58103	701-235-0501	E85	UNLD

STATION NAME	STATION ADDRESS	CITY	STATE	ZIP	PHONE NUMBER	Fuel type on Receipt	Voyager FleetCommander® Product Codes
Max Fuel #6	2103 Fort Campbell Boulevard	Hopkinsville	KY	42240	270-886-3266	E 85	UNLD
MFA Oil Petro-Card 24	1808 East Liberty	Mexico	MO	65265	573-581-7909	E85	E 85
Minto Cenex	422 2nd Street	Minto	ND	58261	701-248-3321	E85	E85
Mobil	1619 North Harrison Avenue	Pierre	SD	57501	605-224-6706	Mid2	E85
Mobil on the Run	1710 N Bishop Avenue	Rolla	MO	65401	573-364-5404	E85	E 85
Mobil on the Run	1401 5th Street	Saint Charles	MO	63301	636-947-6388	E85	E 85
North Star Coop	1304 Hwy 5 N	Cavalier	ND	58220	701-265-3373	E85	E85
Olson Brothers Tire Factory	14115 SE McLoughlin Boulevard	Milwaukie	OR	97267	503-659-5141	UNLD	UNLD
Ozzie's General Store	221 1st Street	Sutherland	NE	69165	308-386-2252	E85	UNLEADED PLUS
Pacific Pride	1902 Terminal Drive	Richland	WA	99352	509-547-3326	no receipt available	E85
Panhandle Cooperative	401 S Beltline Highway	Scottsbluff	NE	69361	800-732-4546	Unleaded	10% GASOHOL
PC Mart	200 East Woodlawn Road	Charlotte	NC	28217	704-527-9133	Ethanol	UNLD
Phillips 66	705 W Grand Crossing	Mobridge	SD	57601	605-845-3382	E85	UNLD
Phillips 66	3801 N Woodlawn	Wichita	KS			E85	UNLD SUPER BLND 5.7%
Phillips 66	200 1st Street	Sergeant Bluff	IA	51054	712-943-5660	E-85	E 85
Phillips 66 U-Stop	110 West O Street	Lincoln	NE	68528	402-438-7878	E85	E 85
Pitt Stop Convenience Store #13	7409 Broad River Road	Irmo	SC	29063	803-749-9447	E85	UNLD
Pitt Stop Convenience Store #16	5019 Augusta Road	Lexington	SC	29072	803-957-4645	E85	CNG
Pitt Stop Convenience Store #28	595 Spears Creek Church Road	Elgin	SC	29045	803-419-8202	E85	UNLD
Pitt Stop Convenience Store #41	1005 Old Cherokee Road	Lexington	SC	29072	803-356-1832	E85	E85
Pitt Stop Convenience Store #42	1928 Airport Road	West Columbia	SC	29169	803-739-4891		E85

STATION NAME	STATION ADDRESS	CITY	STATE	ZIP	PHONE NUMBER	Fuel type on Receipt	Voyager FleetCommander® Product Codes
Prairie Pumper - Stern Oil Company	909 Broadway	Yankton	SD	57078	605-665-7103	gas	N/A
Presto Conoco #29	649 East Bannister Road	Kansas City	MO	64152	816-333-2433	Ethanol	UNLEADED PLUS
Pump & Pantry #24	1630 East South Street	Hastings	NE	68901	402-462-5832	E85 Ethanol Fuel	AVIATION
Quick 66	833 W 3rd St	Redfield	SD	57469		E85	E85
Riverside Sinclair	102 Central Avenue	Estherville	IA	51334	712-362-3857	E85	UNLEADED SUPER
RTC Fuel Depot - Pearson Ford	4067 El Cajon Boulevard	San Diego	CA	92105	619-243-0456	Ethanol	7.7% GASOHOL
Schoon's Pump N Pak	202 Main Avenue South	Brookings	SD	57006	605-697-5700	E85	UNLD
SeQuential Biofuels	86714 McVay Highway	Eugene	OR	97403	503-978-3210	E-85	E85
Sheetz Store #353	Campbells Run Road	Robinson Township	PA	15205	412-787-1190	E85	UNLD
Sheetz Store #360	3954 William Penn Highway	Monroeville	PA	15146	412-373-1539	E85	UNLD
Sheetz Store #376	1000 Clairton Boulevard	Pittsburgh	PA	15236	412-460-0152	E85, Se	UNLD
Shell - Davis Oil Company	2601 Moody Road	Warner Robins	GA	31088	478-328-3755	E85	UNLD
Sinclair	901 West Pershing Road	Cheyenne	WY	82007	307-638-3600	E85	E85
Sioux Valley Cooperative - Cenex	220 10th Avenue NW	Watertown	SD	57201	605-886-5829	E85	E85
Spinx #114	941 Haywood Road	Greenville	SC	29615	864-255-5674	E85	SUPR
Spinx #121	2497 S Highway 14	Greer	SC	29650	864-801-0500	E85	BL57
Spinx #130	1510 Woodruff Road	Greenville	SC	29607	864-234-5664	SPXSUP	SUPR
Spinx #133	2206 N Main Street	Anderson	SC	29624	864-226-8830	E85	SUPR
Spinx #134	1301 Fairview Road	Simpsonville	SC	29681	864-862-6308	E85	SUPR
Spinx #138	1519 Whitehorse Road	Greenville	SC	29605	864-277-6324	E85	SUPR
Spinx #148	2921 Geer Highway	Marietta	SC	29661	864-836-8433	E85	SUPR

STATION NAME	STATION ADDRESS	CITY	STATE	ZIP	PHONE NUMBER	Fuel type on Receipt	Voyager FleetCommander® Product Codes
Spinx #149	1619 Decker Boulevard	Columbia	SC	29206	803-782-4151	SUPSPX	SUPR
Spinx #166	100 W Wade Hampton Boulevard	Greer	SC	29651	864-877-1501	E85	SUPR
Spinx #178	2 Tigerville Road	Travelers Rest	SC	29690	864-610-9427	E85	SUPR
Spinx #179	2901 N Pleasantburg Drive	Greenville	SC	29609	864-250-9892	E85	SUPR
Spinx #189	3135 Brushy Creek Road	Greer	SC	29650	864-801-8855	E85	SUPR
Spinx #190	2601 Locust Hill Road	Taylors	SC	29687	864-801-4066	E85	BL77
Spinx #193	697 Fairview Road	Simpsonville	SC	29680	864-962-1551	E85	SUPR
Spinx #199	7252 Moorefield Memorial Highway	Liberty	SC	29657	864-843-2077	E85	SUPR
Spinx #201	549 East Standing Springs Road	Simpsonville	SC	29680	864-862-6308	E85	UNLD
Spinx #225	220 East Greer Street	Honea Path	SC	29654	864-369-7230	E85	SUPR
StaMart	1120 E Divide Avenue	Bismarck	ND	58501	701-223-1949	E85	E85
Stinker Station Store #23	2323 W. Main St.	Boise	ID	83702	208-342-2512	Offroad Diesel	DISL
Sudden Service	2654 Wilma Rudolph Boulevard	Clarksville	TN	37040	931-647-5300	E 85	UNLD
The Corner Pantry (Shell)	1425 Bluff Road	Columbia	SC	29201	803-254-7626	E85	UNLD
The Gas Stop - I-90 Fuel Services	415 N Kiwanis Ave	Sioux Falls	SD	57104	605-334-7052	E85	AVIA
The Gas Stop - I-90 Fuel Services	3000 E 26th St	Sioux Falls	SD	57103	605-332-1774	E85	AVIA
The Gas Stop - I-90 Fuel Services	1927 W 57th St	Sioux Falls	SD	57108	605-336-2506	E85	AVIA
The Gas Stop - I-90 Fuel Services	4600 W 41st St	Sioux Falls	SD	57106	605-361-7965	E85	AVIA
The Town & Country Store	304 North 6th Street	Dunlap	IA	51529	712-643-1331	E85	UNLEADED
Tomahawk Truck Stop	1695 N Watkins	Watkins	CO	80137	303-261-9677	E85	UNLD

STATION NAME	STATION ADDRESS	CITY	STATE	ZIP	PHONE NUMBER	Fuel type on Receipt	Voyager FleetCommander® Product Codes
Tommy's Crown	7941 Gary Kennedy Highway 15-501	Pinehurst	NC	28374	910-295-0042	E85	E85
Tom's	2905 East Prospect Road	York	PA	17402	717-757-4290	E85	BL77
Tom's	2905 East Prospect Road	York	PA	17402	717-757-4290	E85	SUPR
Town Venter Grocer	6000 Sky Point Drive	Las Vegas	NV	89130	702-839-1314	Premium	UNLEADED SUPER
United Energy Distributors	1046 Toolebeck Road	Aiken	SC	29803	803-642-0113	E-85	E85
West Park Travel Center	2369 Old Highway 14	Huron	SD	57350	605-352-3877	E85	UNLD
Western Terminal Transportation	822 S Beltline Highway	Scottsbluff	NE	69361	308-635-7374	Regular	UNLEADED

APPENDIX 3 – LIST OF RETAIL GASOLINE SITES REPORTING SALES OF E85 TO DOD WHEN E85 IS NOT SOLD AT THE STATION. ORGANIZED BY STATE AND THEN MERCHANT NAME.

Merchant Name	Street Address	City	State	Zip Code
COUGAR OIL INC	2300 S MCKENZIE	FOLEY	AL	36535
MOORE OIL CO INC	9871 PARKWAY EAST	BIRMINGHAM	AL	35215
BRADLEY SINCLAIR #61	12022 E ARAPAHOE RD	ENGLEWOOD	CO	80112
SINCLAIR	131 CHAMBERS AVE.	EAGLE	CO	81631
SINCLAIR	531 E EISENHOWER BLVD	LOVELAND	CO	80537
SINCLAIR RETAIL 051015	601 12TH ST	GOLDEN	CO	80401
ALL STOP #1038	1038 RIVER FOREST ROAD	EVANSDALE	IA	50707
ALL STOP #51	51 EAST TOWER PARK	WATERLOO	IA	50701
CIRCLE B CONVENIENCE	100 1ST ST	KEOSAUQUA	IA	52565
DOWNTOWN SINCLAIR	315 2ND AVE SOUTH	FORT DODGE	IA	50501
FAMILY MART	32ND & CENTRAL AVE.	DUBUQUE	IA	52001
Fast Stop	425 Hwy I & 92	Washington	IA	52353
FLYING J	8200 NW BLVD	DAVENPORT	IA	52809
FLYING J	11820 HICKMAN ROAD	DES MOINES	IA	50325
Fuel 24	2901 W Grimes Street	Fairfield	IA	52556
GROWMARK	Hwy 65 - 20 North	IOWA FALLS	IA	50126
GROWMARK	805 E Jackson	SIGOURNEY	IA	52591
GROWMARK	2901 W Grimes Street	FAIRFIELD	IA	52556
GROWMARK	204 MAIN ST	GARNAVILLO	IA	52049
GROWMARK	123 N HWY 52	GUTTENBERG	IA	52052
GROWMARK	1118 Hwy 30	STANWOOD	IA	52337
GROWMARK	1112 W 4th Street	VINTON	IA	52349
GROWMARK	109 Prairie Ave.	ALDEN	IA	50043
GROWMARK	107 3rd St.	LOW MOOR	IA	52757
INDEPENDENT	101 4TH AVE W	SWEA CITY	IA	50590
INDEPENDENT	540 W MAIN ST	LAURENS	IA	50554
JIMS SERVICE	204 SO 8TH ST	FORT DODGE	IA	50501
LADORA STORA	900 PACIFIC	LADORA	IA	52251
METRO #3	103 FRANKLIN ST.	CEDAR FALLS	IA	50613
MOLO OIL CO	2308 W 53RD ST	DAVENPORT	IA	52806
NORTHSIDE SERVICE	1435 2ND AVE N	FORT DODGE	IA	50501
P&P CONVENIENCE STORE	1406 A ST	FORT DODGE	IA	50501
PHOENIX QUICK SHOP	HWY 78	WAYLAND	IA	52654

Merchant Name	Street Address	City	State	Zip Code
QUIKTRIP	998 8TH AVE.	MARION	IA	52302
QUIKTRIP	802 E. 1ST ST.	ANKENY	IA	50021
QUIKTRIP	850 ARMY POST RD.	DES MOINES	IA	50315
QUIKTRIP	901 SW 63RD ST.	DES MOINES	IA	50312
QUIKTRIP	1501 E. GRAND	DES MOINES	IA	50317
QUIKTRIP	7220 HICKMAN RD	DES MOINES	IA	50322
QUIKTRIP	550 WILSON AVE. S.W.	CEDAR RAPIDS	IA	52406
QUIKTRIP	4801 N.E. 14TH ST.	DES MOINES	IA	50313
QUIKTRIP	4600 MERLE HAY RD.	DES MOINES	IA	50322
QUIKTRIP	3941 SE 14TH ST.	DES MOINES	IA	50315
QUIKTRIP	3330 16TH AVE. SW	CEDAR RAPIDS	IA	52406
QUIKTRIP	2945 E. UNIVERSITY	DES MOINES	IA	50317
QUIKTRIP	2349 BLAIRS FERRY RD.	CEDAR RAPIDS	IA	52406
QUIKTRIP	2300 E. 14TH ST.	DES MOINES	IA	50316
QUIKTRIP	2221 E. EUCLID AVE.	DES MOINES	IA	50317
QUIKTRIP	1749 W. BROADWAY	COUNCIL BLUFFS	IA	51501
QUIKTRIP	1430 1ST AVE.	CEDAR RAPIDS	IA	52406
QUIKTRIP	1421 INGERSOLL	DES MOINES	IA	50309
QUIKTRIP	11925 UNIVERSITY AVE.	DES MOINES	IA	50325
QUIKTRIP	1000 E. UNIVERSITY	DES MOINES	IA	50316
QUIKTRIP 0500	3700 HUBBELL AVE.	DES MOINES	IA	50317
QUIKTRIP 0503	7220 HICKMAN RD	WINDSOR HEIGHTS	IA	50322
QUIKTRIP 0504	998 8TH AVE.	MARION	IA	52302
QUIKTRIP 0505	1430 1ST AVE.	CEDAR RAPIDS	IA	52406
QUIKTRIP 0514	802 E. 1ST ST.	ANKENY	IA	50021
QUIKTRIP 0515	1421 INGERSOLL	DES MOINES	IA	50309
QUIKTRIP 0527	1215 6TH AVE.	DES MOINES	IA	50314
QUIKTRIP 0534	2945 E. UNIVERSITY	DES MOINES	IA	50317
QUIKTRIP 0535	1501 E. GRAND	DES MOINES	IA	50317
QUIKTRIP 0538	4575 NW 2ND	DES MOINES	IA	50313
QUIKTRIP 0544	3941 SE 14TH ST.	DES MOINES	IA	50315
QUIKTRIP 0549	2349 BLAIRS FERRY RD.	CEDAR RAPIDS	IA	52406
QUIKTRIP 0557	380 BLAIRSFERRY RD. NE	CEDAR RAPIDS	IA	52402
QUIKTRIP 0560	2300 MARTIN LUTHER KING P	DES MOINES	IA	50310
QUIKTRIP 0567	9915 DOUGLAS AVE.	URBANDALE	IA	50322
QUIKTRIP 0568	5169 MERLE HAY RD.	JOHNSTON	IA	50322
QUIKTRIP 0575	1749 W. BROADWAY	COUNCIL BLUFFS	IA	51501

Merchant Name	Street Address	City	State	Zip Code
SINCLAIR	103 FRANKLIN ST.	CEDAR FALLS	IA	50613
SINCLAIR	1038 RIVER FOREST ROAD	WATERLOO	IA	50707
SINCLAIR	104 1ST STREET N	ROCKWELL	IA	50469
SINCLAIR	32ND & CENTRAL AVE.	DUBUQUE	IA	52001
SINCLAIR	RR 2, 2601 120TH ST NW	SWISHER	IA	52338
SINCLAIR	HWY 78	WAYLAND	IA	52654
SINCLAIR	HWY 64 EAST 22 E WHITE	PRESTON	IA	52069
SINCLAIR	HWY 63 NORTH	BLOOMFIELD	IA	52537
SINCLAIR	417 EAST 1ST STREET	SAC CITY	IA	50583
SINCLAIR	1305 NORTH 25TH	COUNCIL BLUFFS	IA	51501
SINCLAIR	317 HWY 175	ARTHUR	IA	51431
SINCLAIR	315 2ND AVE SOUTH	FORT DODGE	IA	50501
SINCLAIR	301 W MAIN ST	NEW LONDON	IA	52645
SINCLAIR	2709S 24TH	COUNCIL BLUFFS	IA	51501
SINCLAIR	2332 FALLS AVENUE	WATERLOO	IA	50701
SINCLAIR	2153A.C.T.CIRCLE	IOWA CITY	IA	52240
SINCLAIR	202 WESET TRAER	GREENE	IA	50636
SINCLAIR	200 W BRIDGE ST	ELKADER	IA	52043
SINCLAIR	6807 N W BLVD	DAVENPORT	IA	52806
SINCLAIR	1502 SOUTH FEDERAL	MASON CITY	IA	50401
SINCLAIR RETAIL 143030	1305 NORTH 25TH	COUNCIL BLUFFS	IA	51501
SINCLAIRRETAIL143025	2153A.C.T.CIRCLE	IOWACITY	IA	52240
WILLIAMSBURG FAST STOP	103 HIGHLAND	WILLIAMSBURG	IA	52361
WOOZ'S CAR WASH	1502 SOUTH FEDERAL	MASON CITY	IA	50401
SINCLAIR	1690 N. WOODRUFF AVE	IDAHO FALLS	ID	83401
SINCLAIR	HWY 26 & OVERLAND ST	IDAHO FALLS	ID	83402
WARD OIL	2530 S 4TH AVE	POCATELLO	ID	83204
DELTA SONIC GLENWOOD	18225 S HALSTED	GLENWOOD	IL	60425
Fast Stop	104 Bureau St.	Neponset	IL	61345
Fast Stop Gas N Food (#4)	1001 Six Points Road	Bloomington	IL	61701
FS Fast Stop #1024	519 1/2 E. Lena St.	Lena	IL	61048
GAS CITY	10250 LEMONT RD	WESTMONT	IL	60559
GAS CITY	12505 W 143RD ST	LOCKPORT	IL	60441
GAS CITY	15898 LAGRANGE RD	ORLAND PARK	IL	60467
GAS CITY	17600 SOUTH TORRENCE	LANSING	IL	60438

Merchant Name	Street Address	City	State	Zip Code
	AVE			
GAS CITY	25936 S GOVERNORS HWY	MONEE	IL	60449
GAS CITY	2700 WEST 147TH STREET	POSEN	IL	60469
GAS CITY 50	25936 S GOVERNORS HWY	MONEE	IL	60449
GROWMARK	104 Bureau St.	NEPONSET	IL	61345
GROWMARK	1001 Six Points Road	BLOOMINGTON	IL	61701
GROWMARK	1300 N 7th St.	RIVERTON	IL	62561
GROWMARK	1509 East University	Urbana	IL	61802
GROWMARK	203 Henry St.	PRAIRIE DU ROCHER	IL	62277
GROWMARK	218 IL RT 180	WILLIAMSFIELD	IL	61489
Sublette Fast Stop	508 N. Pennsylvania	Sublette	IL	61367
GAS CITY	7277 TAFT STREET	GARY	IN	46410
GAS CITY	700 EAST 81ST STREET	GARY	IN	46410
GAS CITY	10061 SHEFFIELD	SAINT JOHN	IN	46373
GAS CITY	11166 WEST STATE ROAD # 1	DEMOTTE	IN	46310
GAS CITY # 166	11166 WEST STATE ROAD # 1	DEMOTTE	IN	46310
SINCLAIR	101 NORTH	SENECA	KS	66538
SINCLAIR	2191 SOLDER RD.	FORT SCOTT	KS	66701
BIG APPLE WELCHVILLE	467 MAIN ST	OXFORD	ME	04270
CITGO	634 LISBON RD	LISBON FALLS	ME	04252
CITGO	114 MIDDLE ROAD	FAIRFIELD	ME	04937
CITGO	146 STATE STREET	BANGOR	ME	04401
CITGO	RTE 2 & 4 BOX 764	WILTON	ME	04294
CITGO	6 PORTLAND STREET	BRIDGTON	ME	04009
CITGO	RAILROAD STREET	BETHEL	ME	04217
CITGO	RTE 302	NAPLES	ME	04055
CENEX	Hwy 3 S	NORTHFIELD	MN	55057
CENEX	305 4th St N	FISHER	MN	56723
CENEX	419 E Hoffman St	PAYNESVILLE	MN	56362
Farmes Fuel & Hardware	305 4th St N	Fisher	MN	56723
FORT RIPLEY STORE	617 FRONT ST	FT RIPLEY	MN	56449
HOLIDAY STATIONSTORE	1920 Highway 96	Arden Hills	MN	55112
Hutchinson Coop	1110 Hwy 7 W	Hutchinson	MN	55350
INDEPENDENT	101 8TH ST SE	KASSON	MN	55944
Jambd Inc / DBA Cenex	140 N Munsterman	Appleton	MN	56208

Merchant Name	Street Address	City	State	Zip Code
Con				
Jim's Cenex	605 W Hwy 212	Montevideo	MN	56265
SINCLAIR	E. HWY 212	DAWSON	MN	56232
SINCLAIR	741 WEST HWY #212	GRANITE FALLS	MN	56241
SINCLAIR	521 WELLS ST	BELGRADE	MN	56312
SINCLAIR	617 FRONT ST	FORT RIPLEY	MN	56449
West Central Ag Services	Hwy 32	Ulen	MN	56585
CITGO	3625 ATHENA SCHOOL RD	DE SOTO	MO	63020
RILEY'S	ROUTE JJ	MOBERLY	MO	65207
SINCLAIR	29176 HWY 7	EDWARDS	MO	65326
SINCLAIR	ROUTE JJ	MOBERLY	MO	65207
SINCLAIRRETAIL246052	662069HIGHWAY	PLEASANTVALLEY	MO	64068
421 CARDLOCK	2902 HARRISON AVE	BUTTE	MT	89701
PUMP N PAK INC	2020 NO 7TH AVE	BOZEMAN	MT	59715
THE FRIENDLY CORNER	718 ELLIOT AVE.	HYSHAM	MT	59038
Agri Valley	Hwy 44 & 66	Drayton	ND	58225
CAVALIER SUPPLY	601 MAIN ST W	CAVALIER	ND	58220
CENEX	1210 13TH AVE EAST	WEST FARGO	ND	58078
CENEX	151 9TH AVE NW	VALLEY CITY	ND	58072
CENEX	803 S WASHINGTON	GRAND FORKS	ND	58201
CENEX C-STORE	I29 & DAKOTA	HARWOOD	ND	58042
GRIMSLEY FUELS	PO BOX 88	UNDERWOOD	ND	58576
HERMAN OIL CONVENIENCE ST	1201 16TH AVE WEST	WILLISTON	ND	58801
Simonson - Washington	1402 S Washington Street	Grand Forks	ND	58302
SINCLAIR	BOX 229, 805 MAIN ST.	LISBON	ND	58054
SINCLAIR	71 MAIN RD E	HAZEN	ND	58545
BIG BEAR SINCLAIR	8522 MAPLE ST.	OMAHA	NE	68104
DIAMOND SHAMROCK	400 E NORFOLK AVE	NORFOLK	NE	68701
FLYING J	15010 SOUTH STATE	GRETNA	NE	68028
GOHNER GAS STATION INC	975 364TH	SEWARD	NE	68434
GROWMARK	1430 N 58TH	UNION	NE	68455
JOHNSON QUIK STOP	108 MAIN ST.	JOHNSON	NE	68378
KWIK STOP #3	1421 S DEWEY	NORTH PLATTE	NE	69101
QUIKTRIP	4212 S. 84TH ST.	OMAHA	NE	68127
QUIKTRIP	5005 S. 108TH ST.	OMAHA	NE	68127
QUIKTRIP	1704 S. 72ND ST.	OMAHA	NE	68124

Merchant Name	Street Address	City	State	Zip Code
QUIKTRIP	715 S. SADDLECREEK RD.	OMAHA	NE	68105
QUIKTRIP	6045 L STREET	OMAHA	NE	68117
QUIKTRIP 0580	6045 L STREET	OMAHA	NE	68117
QUIKTRIP 0585	4720 HAMILTON	OMAHA	NE	68132
QUIKTRIP 0586	1311 FORT CROOK RD. N.	BELLEVUE	NE	68005
QUIKTRIP 0587	4404 N 72ND ST	OMAHA	NE	68134
QUIKTRIP 0594	715 S. SADDLECREEK RD.	OMAHA	NE	68105
SAPP BROS-LINCOLN	6001 CORNHUSKER HWY	LINCOLN	NE	68507
SINCLAIR	951 CALHOUN RD	OMAHA	NE	68112
SINCLAIR	5305NORTH103RD	OMAHA	NE	68134
SINCLAIR	HC 01 BOX 50	MAXWELL	NE	69151
SINCLAIR	902 N JEFFERS ST	NORTH PLATTE	NE	69101
SINCLAIR	8522 MAPLE ST.	OMAHA	NE	68104
SINCLAIR	502 W B ST	MC COOK	NE	69001
SINCLAIR	5318 L ST	OMAHA	NE	68117
SINCLAIR	217 E 1ST ST	OGALLALA	NE	69153
SINCLAIR	4525 CENTER ST	OMAHA	NE	68106
SINCLAIR	3432 S LINCOLN	YORK	NE	68467
SINCLAIR	1421 S DEWEY	NORTH PLATTE	NE	69101
SINCLAIR	101 PLATTE OASIS PKWY	NORTH PLATTE	NE	69103
SINCLAIR	10505 PACIFIC ST	OMAHA	NE	68114
SINCLAIR RETAIL 267016	10505 PACIFIC ST	OMAHA	NE	68114
SINCLAIRRETAIL267002	2941NW48TH	LINCOLN	NE	68524
SINCLAIRRETAIL267014	1009WMISSIONAVE	BELLEVUE	NE	68005
THOMSEN OIL CO.	806 E. SOUTH ST.	HASTINGS	NE	68901
TROTTER'S WHOA & GO	PO BOX 546	LOUP CITY	NE	68853
TVRDY'S 101	HWY 79	VALPRAISO	NE	68065
GULF OIL	5 MAIN ST.	BLOOMINGDALE	NJ	07403
PHILLIPS 66	4354 CERRILLOS	SANTA FE	NM	87508
6 TH AVENUE CAR WASH	124 AVE OF THE AMERICAS	NEW YORK	NY	10013
DELTA SONIC #1807	1264 MAIN STREET	BUFFALO	NY	14209
DELTA SONIC #1810	NIAGARA FALLS BLVD & 80TH	NAIGARA FALLS	NY	14303
DELTA SONIC #1813	718 EAST MAUN STREET	ROCHESTER	NY	14604
DELTA SONIC #1827	3439 EIRE BLVD.	DEWITT	NY	14324
DELTA SONIC #18292	1841 EMPIRE BLVD.	WEBSTER	NY	14580
GULF OIL	280 MAIN ST	CENTER MORICHES	NY	11934
GULF OIL	300 RT 303	ORANGEBURG	NY	10962

Merchant Name	Street Address	City	State	Zip Code
GULF OIL	72 MAIN ST	FLUSHING	NY	11367
ENGLEFIELD, INC.	900 N 21ST ST	NEWARK	OH	43055
FUELSTREAM	21000 BROOKPRK RD MS 1041	CLEVELAND	OH	44135
TELETRANS	21000 BROOKPARKRD MS 1041	CLEVELAND	OH	44135
BAKER TRUCK CORRAL	515 CAMPBELL	BAKER CITY	OR	97814
ANTHONY MAZZARINI	910 SAWMILL RUN BLVD	PITTSBURGH	PA	15220
GULF OIL	390 CHESTER PIKE	RIDLEY PARK	PA	19078
GULF OIL	326 N WILLIAMSON RD	BLOSSBURG	PA	16912
MURPHY 5363 @ WAL-MART	2517 LAURENS RD	GREENVILLE	SC	29607
MURPHY5363@WAL-MART	2517 LAURENS RD	GREENVILLE	SC	29607
DIAMOND SHAMROCK	314 W GRAND CROSSING	MOBRIDGE	SD	57601
DON'S SINCLAIR	401 WEST SIOUX	PIERRE	SD	57501
J & J'S	401 S NEBRASKA ST	SALEM	SD	57058
OLD MILL GENERAL STORE	WEST MAIN STREET	ELK POINT	SD	57025
RUSHMORE SINCLAIR	2420 MT. RUSHMORE ROAD.	RAPID CITY	SD	57701
SINCLAIR	2420 MT. RUSHMORE ROAD.	RAPID CITY	SD	57701
SINCLAIR	2500 W MADISON ST	SIOUX FALLS	SD	57104
SINCLAIR	WEST MAIN STREET	ELK POINT	SD	57025
SINCLAIR	305 S HWY #183	COLOME	SD	57528
SINCLAIR	305 HICKERY	SISSETON	SD	57262
SINCLAIR	5 10TH ST WEST	LEMMON	SD	57638
SINCLAIR	1845 UNIVERSITY AVE.	HOT SPRINGS	SD	57747
SINCLAIR	3725 N CLIFF	SIOUX FALLS	SD	57104
SINCLAIR	8031 STAGESTOP ROAD	BLACK HAWK	SD	57718
SINCLAIR	709 N BROADWAY AVE	MILLER	SD	57362
TELETRANS	601 RIVERSIDE DR	ABERDEEN	SD	57401
EAST ST GEORGE BLVD SINC	994 EAST ST GEORGE BLVD	ST GEORGE	UT	84770
FARMERS MARKET	495 N STATE ST	LA VERKIN	UT	84745
SCHIFTY'S	504 N MAIN ST	BRIGHAM CITY	UT	84302
SINCLAIR	2009 W. 400 S.	SPRINGVILLE	UT	84663
SINCLAIR	1495 W 200 N	CEDAR CITY	UT	84720
SINCLAIR	495 N STATE ST	LA VERKIN	UT	84745
SINCLAIR	925CHAMBERSAVE	OGDEN	UT	84403
SINCLAIR	504 N MAIN ST	BRIGHAM CITY	UT	84302

Merchant Name	Street Address	City	State	Zip Code
SINCLAIRRETAIL43039	925CHAMBERSAVE	SOUTHOGDEN	UT	84403
WHITEYS SINCLAIR	19 SOUTH CENTER	MINERSVILLE	UT	84752
U S OIL INC	1630 EAST BLASCHKO	ARCADIA	WI	54612
SINCLAIR	820WLINCOLNWAY	CHEYENNE	WY	82001
SINCLAIR	1121 S MAIN ST	BUFFALO	WY	82834

APPENDIX 4 – FLEET CARDS ON PROPRIETARY AND NON-PROPRIETARY CARD SYSTEMS (AUTOMOTIVE FLEET 2005)

Company Name	Phone Number	Manager	Fuel Management Program Name	Number of States with Sites/Stations	Total sites and Stations	Level 3 Fuel Type
ARCO	800-526-2667	Michael Glassman	ARCO GasPRO Plus	5	1400	Yes
BP Oil Company	888-456-2237	Robin Boyce	BP Business Solutions BP Business Solutions MasterCard	36	15,000	Yes
ChevronTexaco	888-243-8358	Janet Frazier	Chevron and Texaco Business Card	28	8,500	No
CITGO Petroleum Corp.	800-331-5843 ext 4133 at tone	Karen Callaghan	CITGOFleet Standard CITGOFleet Enhanced	45	14,000	Yes
Comdata Bus. Fleet Svcs.	615-376-6902	Randy Morgan	Comdata MasterCard Corporate Fleet Card	50	181,200	Yes
Commercial Fueling Network	800-899-2236	Jeff Zajas	CFN	44	2,875	Yes
ConocoPhillips	281-293-1573	Joel Raber	ConocoPhillips Fleet Card supporting Phillips 66 & Conoco Union 76	45 (ConocoPhillips)	15,000	Yes
ExxonMobil	713-680-7254	Patrick Curran	ExxonMobil Fleet Card	40 (ExxonMobil)	15,500 (Exxon & Mobil)	Yes
FleetCor Technologies, The Fleet Car Company	800-FUELMAN	Mark Lavin	Fuelman Fleet Card, CFN, FleetNet private label solutions	48	30,000	Yes
MasterCard International	888 321 9119	Varies	MasterCard Corporate Fleet Card MasterCard Public Sector Fleet Card	50	Universal	Yes
Pacific Pride Services, Inc.	800-367-5066	Cindy Condon	Pacific Pride The Commercial Fueling System	37	1,498	Yes

Company Name	Phone Number	Manager	Fuel Management Program Name	Number of States with Sites/Stations	Total sites and Stations	Level 3 Fuel Type
PS Energy Group, Inc.	800-334-7548	Livia Whisenhunt	PS Energy Fuel Management	50	177,000	Yes
Shell Oil Co.	281-754-1602 281-754-1716	Melanie Capeda	Shell Fleet Plus Shell Fleet	50	20,000+	Yes
Sunoco Inc.	215-977-6879	Tony Free	Sunoco Fuel Mgmt. Program	23	4,600	Yes
Visa Fleet	703-287-4653	Martin Johnson	Visa Fleet Card	50	185,000	
U.S. Bank Voyager Fleet Systems Inc.	800-987-6590	Ken Kral	Voyager Universal Fleet Card	50	182,000	Yes
Wright Express LLC	800-395-0812	Dave Maxsimic	Wright Express Universal Fleet Card	50	175,000	Yes

APPENDIX 5 – FUEL TERMINOLOGY AND CODES USED BY VOYAGER, MASTERCARD AND PCATS.

MASTERCARD FLEET FUEL CODES

Product Description	Product Code
Unleaded Regular (86 or 87 octane)	1
Unleaded Mid Grade (88 or 89 octane)	2
Unleaded Premium (90 or 91 octane)	3
Unleaded Super (92-94 octane)	4
Methanol Unleaded Regular (86 or 87 octane)	5
Methanol Unleaded Mid Grade (88 or 89 octane)	6
Methanol Unleaded Premium (90 or 91 octane)	7
Methanol Unleaded Super (92-94 octane)	8
Methanol Regular Leaded	9
Regular Leaded Gasoline	11
Diesel	12
Diesel Premium	13
Kerosene	14
LPG	15
Compressed Natural Gas	16
M85 (Methanol 85%)	17
E85 (Ethanol 85%)	18
Ethanol Unleaded Regular 86 or 87 octane)	19
Ethanol Unleaded Mid Grade (88 or 89 octane)	20
Ethanol Unleaded Premium (90 or 91 octane)	21
Ethanol Unleaded Super (92-94 octane)	22
Ethanol Regular Leaded	23
Unleaded Reformulated (86 or 87 octane)	24
Unleaded Mid Grade Reformulated (88 or 89 octane)	25
Aviation 100 Octane	100
Jet Fuel	101
Aviation Fuel	102
Marine Fuel	150
Miscellaneous Fuel	200
Liquid Natural Gas	201
White Gas	202
Racing Fuel	203

VOYAGER FLEET FUEL CODES

Product Description	Product Code	Product Abbreviation
DIESEL BIO	D0	BIOD
UNLD PLUS BLEND 10%	D6	PB10
UNLD PLUS BLEND 5.7%	D4	PB57
UNLD PLUS BLEND 7.7%	D5	PB77
UNLD SUPER BLND 10%	D9	SB10
UNLD SUPER BLND 5.7%	D7	SB57
UNLD SUPER BLND 7.7%	D8	SB77
UNLEADED BLEND 10%	D3	UB10
UNLEADED BLEND 5.7%	D1	UB57
UNLEADED BLEND 7.7%	D2	UB77
UNLEADED	01	UNLD
UNLEADED PLUS	02	UNL+
UNLEADED SUPER	04	SUPR
DIESEL	05	DISL
AVIATION	06	AVIA
JET FUEL	07	JET
MARINE	08	MARN
FUEL ADDITIVES	49	FADD
PROPANE	50	PROP
NATURAL GAS	51	NATG
METHANOL	52	METH
ETHANOL	53	ETHN
KEROSENE	54	KERO
10% GASOHOL	55	BL10
7.7% GASOHOL	56	BL77
5.7% GASOHOL	57	BL57
WHITE GAS	58	WGAS
COMPR NAT GAS(CNG)	59	CNG
DUAL PROPANE/UNLDED	60	PRUN
WIDE NOZZLE UNLEADED	61	WUNL
SPECIAL MTR FUEL LPG	62	LPG
OTHER FUEL	63	OTHR
M 85	64	M85
DIESEL WITHOUT TAX	65	DSLW
E 85	66	E 85
LIQUIFIED NATURAL GAS	67	LNG
UNLEAD WITHOUT TAX	68	UNLW

Visa Fleet Fuel Codes

Product Description	Product Code
Gasohol-5.7%	00
Unleaded Regular-86	01
Unleaded Regular-87	02
Unleaded Mid Grade-88	03
Unleaded Mid Grade-89	04
Unleaded Premium-90	05
Unleaded Premium-91	06
Unleaded Super-92	07
Unleaded Super-93	08
Unleaded Super-94	09
Gasohol-7.7%	10
Regular Leaded	11
Diesel	12
Diesel Premium	13
Kerosene	14
LPG	15
Gasohol-16%	16
CNG	17
Methanol-85	18
Methanol-10	19
Methanol-7	20
Methanol—5	21
Ethanol—85	22
Ethanol—10	23
Ethanol—7	24
Ethanol—5	25
Jet Fuel	26
Aviation Fuel	27
Jet Fuel	28
Jet Fuel	29
Jet Fuel	30-99

PCATS FUEL CODES

Product Description	Product Code
Unleaded Regular	001
Unleaded Plus	002
Unleaded Super	003
Unleaded 4	004
Unleaded 5	005
Unleaded Methanol (5.7% blend)	006
Unleaded Plus Methanol (5.7% blend)	007
Super Unleaded Methanol (5.7% blend)	008
Unleaded Methanol (7.7% blend)	009
Unleaded Plus Methanol (7.7% blend)	010
Unleaded Ethanol (5.7% blend)	011
Unleaded Plus Ethanol (5.7% blend)	012
Super Unleaded Ethanol (5.7% blend)	013
Unleaded Ethanol (7.7% blend)	014
Unleaded Plus Ethanol (7.7% blend)	015
Methanol / Leaded	016
Ethanol / Leaded	017
Leaded	018
Regular Diesel #2	019
Premium Diesel #2	020
Diesel #1	021
Compressed Natural Gas	022
Liquid Propane Gas	023
Liquid Natural Gas	024
M-85	025
E-85	026
Unleaded - Reformulated 1	027
Unleaded - Reformulated 2	028
Unleaded - Reformulated 3	029
Unleaded - Reformulated 4	030
Unleaded - Reformulated 5	031
Diesel Off-Road (#1 and #2 Non-Taxable)	032
Ultra Low Sulfur Diesel Off-Road (Non-Taxable)	033
Biodiesel Blend Off-Road (Non-Taxable)	034
Ultra Low Sulfur Biodiesel Blend Off-Road (Non-Taxable)	035
Racing Fuel	036
Super Unleaded Methanol (7.7% Blend)	037

Product Description	Product Code
Unleaded Methanol (10% Blend)	038
Unleaded Plus Methanol (10% Blend)	039
Super Unleaded Methanol (10% Blend)	040
Undefined	041-044
B2 Diesel Blend 2% BioDiesel	045
B5 Diesel Blend 5% BioDiesel	046
B10 Diesel Blend 10% BioDiesel	047
B11 Diesel Blend 11% BioDiesel	048
B15 Diesel Blend 15% BioDiesel	049
B20 Diesel Blend 20% BioDiesel	050
B100 Diesel Blend 100% BioDiesel	051
Ultra Low Sulfur #1	052
Ultra Low Sulfur #2	053
Ultra Low Sulfur Premium Diesel #2	054
Ultra Low Sulfur Biodiesel Blend 2%	055
Ultra Low Sulfur Biodiesel Blend 5%	056
Ultra Low Sulfur Biodiesel Blend 10%	057
Ultra Low Sulfur Biodiesel Blend 11%	058
Ultra Low Sulfur Biodiesel Blend 15%	059
Ultra Low Sulfur Biodiesel Blend 20%	060
Ultra Low Sulfur Biodiesel Blend 100%	061
Undefined Fuel–Reserved for PCATS Future Use	062-070
Undefined Fuel–Reserved for Proprietary Use	071-098
Miscellaneous Fuel	099

APPENDIX 6 – PCATS MEMBERSHIP (2005 AND 2007)

2005 Membership

Retailers

7-Eleven, Inc.
BP Products NA Inc.
CITGO Petroleum Corporation
ExxonMobil Fuels Marketing
Holiday Stationstores, Inc.
Kwik Trip, Inc.
Shell Oil Products US
Speedway SuperAmerica LLC

Suppliers

Alliance Data Systems, Inc.
AT Systems, Inc.
AutoGas Systems, Inc.
BlueCube Software
Business Solutions, LLC
Comdata Corporation
Daktronics, Inc.
DataMax Group
First Data Corporation
Gilbarco Veeder-Root
Lynk Systems, Inc
New Edge Networks
OPW Fuel Management Systems, Inc.
Petroleum Card Services, Inc.
Pinnacle Corporation
Service Station Computer Systems (SSCS)
Summit Software, Inc.
TelaPoint, Inc.
Unitec Electronics
VeriFone, Inc.
Wright Express

2007 Membership

Retailers

7-Eleven, Inc.
Alon USA
Australasian Association of Convenience
Stores
Balmar Petroleum
BP Products NA Inc.
Calfee Company of Dalton, Inc.
Cary Oil Co., Inc.
Chevron Corp.
CHS, Inc.
CITGO Petroleum Corporation
Cody's Ventures
ConocoPhillips
Coulson Oil Co., Inc.
Cumberland Farms, Inc.
Douglass Distributing Company
E.J. Pope & Son/Handy Mart
ExxonMobil Fuels Marketing
E-Z Mart Stores, Inc.
E-Z Stop/Calloway Oil Company
Flash Foods, Inc. The Jones Company
Garb-Ko, Inc. 7 ELEVEN Food Stores
Hartland Fuel Products, Inc.
Heritage's Dairy Stores
Hess Corporation
Holiday Stationstores, Inc.
Holmes Oil Company
Irving Oil Limited
J.D. Carpenter Companies/Short Stop
Stores
Kwik Trip, Inc.
Lard Oil Company
Martin & Bayley, Inc.
Maverick Country Stores, Inc.
Miller Oil Company

Moyle Petroleum Company
Murphy USA Marketing Company
National Association of Convenience
Stores
Nice N Easy Grocery Shoppes, Inc.
Noco Energy Corp.
Oasis Stop 'N Go
The Parker Companies
PDQ Food Stores
Pilot Travel Centers, LLC.
RaceTrac, Inc.
Ricker Oil Company
Robinson Oil Corporation
CHR Corp, dba Rutter's Farm Stores
Shell Oil Products US
Sheetz, Inc.
SSP Partners, Inc.
Sunoco Inc.
The Kroger Co.
The Pantry, Inc.
Thorntons Inc.
TravelCenters of America
Town and Country Food Stores, Inc.
Valero Energy Corporation
Wallis Companies
Wawa, Inc.
Wiegel Farm Stores, Inc.

Suppliers

1SYNC, Inc.
Acumera, Inc.
AIMS, Inc.
Alliance Data Systems, Inc.
Allied Electronics, Inc.
Amador Valley Software
Amcom

American Technology Corporation

Anheuser-Busch, Inc.

Armor Safe Technologies, LLC

Associated Wholesalers, Inc.

AT Systems, Inc.

AutoGas Systems, Inc.

AVALON INFORMATICA, S.L (SPAIN)

Axxis II, LLC - an OPIS Company

B&C Electronics, Inc.

Bevers and Co.

Blackhawk Network

BlueCube Software

Business Solutions, LLC

Cadbury Schweppes Americas Beverages

Carolina Distributors

CDR

Cleo Communications

CMi Solutions

Coca-Cola Enterprises, Inc.

Comdata Corporation

Comota (Japan)

Compatible Software Systems, Inc.

Coremark, Inc.

Corporate Express, Inc.

Corporate Safe Specialists, Inc.

Daktronics, Inc.

DataMax Group

DTN Energy

Dresser-Wayne

ECR Software Corporation

EK3

Emba Techniek bv

Everbrite, LLC

Excentus

FACTOR

Fintech

Fifth Third Bank

Fire King Security Products

Firestream Worldwide

First Data Corporation

Fiscal Systems, Inc.

FleetCor Technologies

Fleet One

Franklin Fueling Systems

FuelBay, Inc.

FuelQuest, Inc.

Future Media Displays

Gerke & Associates, Inc.

Gilbarco Veeder-Root

Global eXchange Services, Inc.

Greenbax Enterprises, Inc.

GTech, Inc.

H.T. Hackney, Inc.

Hamilton Manufacturing Corp.

Impact 21 Group, LLC

InfoNet Technology Corporation

Integration Technologies Limited

Kenan Advantage Group, Inc.

Lance, Inc.

Liberty USA, Inc.

McLane Company, Inc.

Marathon Ashland Petroleum LLC

Metrosplash

MoneyGram International

National Payment Card

New Edge Networks

Nova Solutions, LLC

OPW Fuel Management Systems, Inc.

Outsite Networks, Inc.

PepsiCo, Inc.

Performance Retail, Inc.

Pinnacle Corporation

Professional Datasolutions, Inc

Pro-Lite, Inc.

PWM Electronic Price Signs

Radiant Systems, Inc.

RBSLynk, Inc.

Retailer Owned Research Co

Retalix USA, Inc.

Scheidt & Bachmann GmbH

Scientific Games International

Service Station Computer Systems (SSCS)

Shanghai Asia Jumper

Shell Canada Limited

Skyline Products, Inc.

Southco Distributing Company

Static Controls Corporation

Structured Management Systems, Inc.

Summit Software, Inc.

Sys-Corp

TelaPoint, Inc.

The ADD Companies

Tidel Engineering, L.P.

Torex Retail

Tridium, Inc.

Unified Western Grocers

Unitec Electronics

ValueCentric Marketing

VeriFone, Inc.

W. Capra Consulting Group, Inc.

Warren Rogers Associates, Inc.

Wincor-Nixdorf International, GmbH

Wright Express

XProtean, Inc.

Partner Organizations

Self Service and Kiosk Association

APPENDIX 7 – LIST OF STATE WEIGHTS AND MEASURES DIRECTORS (NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY 2007)

State W & M Directors 4/07

State Weights and Measures Directors

Alabama

Steadman L. Hollis
Program Director, Light
Weights & Measures
AL Dept of Agr & Industries
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AK Div of Meas Stds/CVE
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URL:www.dot.state.ak.us/mscv3/index.shtml

American Samoa

Silimusa Solomona
Chief Weights & Measures
AS Dept of Legal Affairs
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Pago Pago, American Samoa 96799
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Arizona

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AZ Dept of Weights & Measures
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d=254

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.htm

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URL:http://www.mda.state.md.us/geninfo/g
enera5.htm

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Deputy Administrator Business
Stds Div
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m.htm

Nevada

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easures.htm

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Commissioner
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New Jersey

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State Superintendent
NJ Weights & Measures
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Avenel, New Jersey 07001-1647
Telephone: (732) 815-4840
FAX: (732) 382-5298
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APPENDIX 8 - SMARTPAY®2 CONTRACT CLAUSE – BILLING DISCREPANCIES

C.1.18.1.11 Billing Discrepancies: The invoice will be manually or electronically reconciled by the agency/organization or designee. The agency/organization is responsible for notifying the Contractor of any items in dispute and shall have 90 calendar days from the date that the transaction was processed to initiate a dispute. This notification of transaction dispute may occur via the electronic access system described in C.2.6.3 Electronic Access Systems (EAS), telephone, or other means (e.g., facsimile, mail), but must be followed up in writing if required by the Contractor's operating rules and regulations.   The agency/organization shall adhere to the Contractor's operating rules and regulations regarding disputes. In the event of a transaction dispute, the Contractor shall:

a)   Provide immediate temporary credit to the account;

b)   Provide sufficient transaction data to identify the charge;

c)   Promptly investigate disputed items and use best efforts to resolve transaction disputes, including working with merchants and the Transaction Dispute Office;

d)   Provide a copy of the charge in dispute, if requested;

e)   Provide a copy of all Contractor correspondence regarding disputed items, if requested;

f)   Chargeback the merchant where appropriate;

g)   Detail the disputed charge on the Invoice Status Report (see C.3.3.1.1 Essential Reports); and

h)   Where appropriate, re-bill allowable charges in the subsequent billing period and include complete transaction data for the re-billed charge if available.

APPENDIX 9 – MEMBERS OF THE PETROLEUM EQUIPMENT INSTITUTE

POS Terminals and Peripherals

Name	City	State
Anniston Pump Shop, Inc. dba A.P.S. Petroleum Equipment	Anniston	Alabama
Balcrank Products Inc.	Weaverville	North Carolina
Bennett Pump Company	Spring Lake	Michigan
CleanFuel USA	Georgetown	Texas
CPR/Colorado Petroleum Rebuilders, Inc.	Golden	Colorado
Del Zotto Products of Florida, Inc.	Ocala	Florida
Dixon Pumps	Billings	Montana
Dresser Wayne, Dresser, Inc.	Austin	Texas
eFueling Technologies, Inc.	Austin	Texas
ESCO Services, Inc.	Tampa	Florida
Fairfield Industries, Inc.	Newark	New Jersey
Fibrelite Corporation	Pawcatuck	Connecticut
Franklin Fueling Systems	Madison	Wisconsin
Freedom Electronics, Inc.	Kennesaw	Georgia
FuelForce Multiforce Systems	Princeton	New Jersey
Gasboy International, Inc.	Greensboro	North Carolina
Gasoline Pump Components, Inc.	Tunnel Hill	Georgia
Gilbarco Veeder-Root	Greensboro	North Carolina
Liquid Controls, LLC A Unit of IDEX Corporation	Lake Bluff	Illinois
LUBEQ Corp.	Elgin	Illinois
Meters Inc.	Cartersville	Georgia
Midwest Computer Register dba MID:COM	Hampton	Iowa
Modern Welding Company, Inc.	Owensboro	Kentucky
National-Spencer, Inc.	Wichita	Kansas
OILCO USA Liquid Handling Systems	Monmouth Junction	New Jersey
OPW Fuel Management Systems	Hodgkins	Illinois
OPW Fueling Components A Dover Resources Company	Cincinnati	Ohio
Orpak USA, Inc.	Hackensack	New Jersey
PPI-DurEquip, Inc.	Ft. Wayne	Indiana
Progressive Intl. Electronics	Raleigh	North Carolina
Pump Measure Control Inc.	Alpharetta	Georgia
RCI Technologies	San Dimas	California
RDM Industrial Electronics, Inc.	Nebo	North Carolina
Scully Signal Company	Wilmington	Massachusetts
Square D Integrated Power & Control Solutions (IPaCS)	Salisbury	North Carolina

Name	City	State
Tesco Resources, Inc.	Prospect	Connecticut
Tokheim Genuine Parts	Fremont	Indiana
Total Control Systems	Fort Wayne	Indiana
Triangle MicroSystems, Inc.	Raleigh	North Carolina
Tronitec, Inc.	Marietta	Georgia
Tuthill Transfer Systems	Fort Wayne	Indiana

Dispensing Systems, Motor Fuel

Name	City	State
Anniston Pump Shop, Inc. dba A.P.S. Petroleum Equipment	Anniston	Alabama
Balcrank Products Inc.	Weaverville	North Carolina
Bennett Pump Company	Spring Lake	Michigan
CleanFuel USA	Georgetown	Texas
CPR/Colorado Petroleum Rebuilders, Inc.	Golden	Colorado
Del Zotto Products of Florida, Inc.	Ocala	Florida
Dixon Pumps	Billings	Montana
Dresser Wayne, Dresser, Inc.	Austin	Texas
eFueling Technologies, Inc.	Austin	Texas
ESCO Services, Inc.	Tampa	Florida
Fairfield Industries, Inc.	Newark	New Jersey
Fibrelite Corporation	Pawcatuck	Connecticut
Franklin Fueling Systems	Madison	Wisconsin
Freedom Electronics, Inc.	Kennesaw	Georgia
FuelForce Multiforce Systems	Princeton	New Jersey
Gasboy International, Inc.	Greensboro	North Carolina
Gasoline Pump Components, Inc.	Tunnel Hill	Georgia
Gilbarco Veeder-Root	Greensboro	North Carolina
Liquid Controls, LLC A Unit of IDEX Corporation	Lake Bluff	Illinois
LUBEQ Corp.	Elgin	Illinois
Meters Inc.	Cartersville	Georgia
Midwest Computer Register dba MID:COM	Hampton	Iowa
Modern Welding Company, Inc.	Owensboro	Kentucky
National-Spencer, Inc.	Wichita	Kansas
OILCO USA Liquid Handling Systems	Monmouth Junction	New Jersey
OPW Fuel Management Systems	Hodgkins	Illinois
OPW Fueling Components A Dover Resources Company	Cincinnati	Ohio
Orpak USA, Inc.	Hackensack	New Jersey

Name	City	State
PPI-DurEquip, Inc.	Ft. Wayne	Indiana
Progressive Intl. Electronics	Raleigh	North Carolina
Pump Measure Control Inc.	Alpharetta	Georgia
RCI Technologies	San Dimas	California
RDM Industrial Electronics, Inc.	Nebo	North Carolina
Scully Signal Company	Wilmington	Massachusetts
Square D Integrated Power & Control Solutions (IPaCS)	Salisbury	North Carolina
Tesco Resources, Inc.	Prospect	Connecticut
Tokheim Genuine Parts	Fremont	Indiana
Total Control Systems	Fort Wayne	Indiana
Triangle MicroSystems, Inc.	Raleigh	North Carolina
Tronitec, Inc.	Marietta	Georgia
Tuthill Transfer Systems	Fort Wayne	Indiana

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