

U.S. Postal Service

Fleet Alternative Fuel Vehicle Program Report for Fiscal Year 2011

February 15, 2012

This report presents data on the number of alternative fuel vehicles (AFVs) acquired by the United States Postal Service (the Postal Service) in fiscal year (FY) 2011, its planned acquisitions and projections for FY2012, its alternative fuel use, and petroleum fuel savings. The report complies with the Energy Policy Act of 2005 (EPAAct) (P.L. 109-58, 42 U.S.C. 15801) and takes into consideration Executive Order (EO) 13514 (Federal Leadership in Environmental, Energy, and Economic Performance) and EO 13423 (Strengthening Federal Environmental, Energy, and Transportation Management). During FY2011, the Postal Service acquired 120 vehicles, 70 vehicles were alternative fuel vehicles. Of the total vehicles acquired, there were 106 light-duty vehicles, 13 medium-duty vehicles, and 1 bus. Of the total vehicles acquired, 52 vehicles were Postal Owned alternative fuel vehicles and 18 vehicles were leased alternative fuel vehicles under EPAAct or under the National Defense Authorization Act (NDAA) of 2008 definition. Of these vehicles, 24 were EPAAct covered acquisitions (operated within an MSA and not law enforcement vehicles). The Postal Service earned 501 additional EPAAct credits for its biodiesel usage, for a total of 519 AFV EPAAct credits. This resulted in the Postal Service attaining an AFV-acquisition percentage of 2,163% under EPAAct.

Energy Legislation and Executive Orders

On August 8, 2005, President Bush signed the Energy Policy Act (EPAAct) of 2005. EPAAct requires that in FY1999 and beyond 75% of all covered light-duty vehicles acquired for federal fleets (where fleets have 20 or more vehicles, are capable of being centrally fueled, and are operated in a metropolitan statistical area (MSA) with a population of more than 250,000 based on the 1980 census) be AFVs. Certain types of emergency, law enforcement, and national defense vehicles are exempt from these requirements.

EPAAct of 2005 Section 701 now requires federal fleets to use alternative fuels in dual-fuel vehicles acquired under the EPAAct of 1992 programs unless the Secretary of Energy determines an agency qualifies for a waiver. Criteria for a waiver include: alternative fuel is not reasonably available to the fleet or the cost of alternative fuel is unreasonably more expensive than conventional fuel.

In addition, EPAAct allows one alternative fuel vehicle acquisition credit for every 450 gallons of neat (pure) biodiesel fuel consumed [or 2,250 gallons of B20 (20% biodiesel and 80% regular diesel), as it is normally sold] in vehicles over 8,500 pounds gross vehicle weight rating. "Biodiesel credits" may fulfill up to 50 percent of an agency's EPAAct requirements. The head of each Federal agency must also prepare and submit a report to Congress outlining the agency's AFV acquisitions and future plans by February 15th each year.

EO 13423 directs Federal agencies operating a fleet of 20 or more vehicles within the United States, (i) to reduce their annual petroleum consumption (in non-exempt vehicles) by 2% annually through the end of fiscal year 2015 relative to agency baseline for fiscal year 2005, (ii) increase the total fuel consumption that is non-petroleum based by 10 percent annually, and (iii) use plug-in hybrid (PIH) vehicles when PIH vehicles are commercially available at a cost reasonably comparable, on the basis of life-cycle costs to non-PIH vehicles. This EO does not apply to the Postal Service; however, to achieve compliance with the legislative mandates of EPAAct, we will take into consideration EO 13423 when developing the Postal Service's compliance strategy.

In January 2008, the National Defense Authorization Act was signed into public law (110-181) by President Bush. The Act amends the 2005 Energy Policy Act allowing Federal Agencies to acquire a broader array of alternative fuel vehicles (AFV), which includes hybrid and very fuel efficient motor vehicles.

In October of 2009, President Obama signed Executive Order (EO) 13514, "Federal Leadership in Environmental, Energy, and Economic Performance." This EO expanded upon EO 13423. A portion of

the new order requires Federal executive agencies to increase their energy efficiency, reduce fleet petroleum consumption, conserve water, reduce waste, support sustainable communities, and leverage their Federal purchasing power to promote environmentally responsible products and technologies.

Executive Order (EO) 13514 expands upon EO 13423. Language in EO 13514 asks Federal executive agencies to consider reducing use of fossil fuels by using low greenhouse gas emitting vehicles; optimizing the number of vehicles in the agency fleet; and reducing petroleum consumption by 2 percent annually through FY2020 (2005 baseline). It also requires Federal executive agencies to set GHG emission reduction targets; establish GHG emission inventories; and develop Strategic Sustainability Performance Plans. The EO does not apply to the Postal service but we have adopted many of the policies and programs under postal authority.

In May of 2011, President Obama issued a Presidential Memorandum that required all federal fleets to acquire only alternative fuel vehicles by the end of 2015. The memo included issues such as vehicle size, engine size, optional equipment, and optimum fleet size as well as leveraging purchasing dollars “to build manufacturing capacity for more alternative fueled vehicles.” It also requires the disclosure by the Agency on the Agency website of executive fleet vehicles that are larger than a midsize sedan or do not comply with alternative fueled vehicle requirements. The memo’s requirements do not apply to the Postal Service, but it contains language asking the Department of Energy to continue to work with the Postal Service to test alternative fuel vehicles.

U.S. Postal Service Approach to EPA Act Compliance, also taking into consideration Executive Order 13514 and 13423

To achieve compliance with the legislative mandates of EPA Act, EISA and take into consideration EO 13514 and 13423, the Postal Service’s strategy for vehicle acquisitions is as follows:

- Delivery (mail hauling) vehicle purchases will be AFVs, provided that mission-appropriate and cost effective vehicles are made available by manufacturers. The Postal Service Headquarters will continue to centrally purchase all delivery vehicles.
- The Postal Service does not purchase delivery vehicles on a regular schedule. Since the majority of delivery vehicles are custom-designed, right-hand-drive vehicles, the Postal Service purchases vehicles in large quantities to attain a favorable unit price. There were buys in FY1998 (10,000 ethanol flex-fuel vehicles), FY1999 (11,275 ethanol flex-fuel vehicles), FY2000 (500 electric vehicles.), FY2003 (6,240 ethanol flex-fuel minivans), FY2005 (3,120 ethanol flex-fuel minivans), FY2006 (approximately 2,500 ethanol flex-fuel minivans), FY2007 (4,417 ethanol flex-fuel vehicles), FY2008 (1,351 ethanol flex-fuel vehicles), FY2009 (1,131 ethanol flex fueled vehicles), FY2010 (3,574 vehicles, 592 ethanol flex-fuel vehicles, 2,421 NDAA compliant and 172 gas hybrid), and in FY2011 (68 ethanol flex-fuel vehicles and 2 gas hybrid vehicles). The uneven stream of delivery vehicle purchases can cause large fluctuations in the absolute numbers of acquisitions that form the basis for EPA Act percentage calculation. Of 106 light-duty vehicles (LDV) purchases in FY2011, 24 were EPA Act covered LDVs. A total of 70 AFVs were acquired for the postal fleet.
- The Postal Service also seeks out AFVs that will comply with operational requirements for non-mail-hauling purchases, which are also done through Postal Service Headquarters.
- The Postal Service will continue to use biodiesel in its diesel vehicles when its cost comparable. In FY2011, 932,141 gasoline gallons equivalent (GGE) of B20 and 61,041 GGE B100 were used, earning the Postal Service 501 EPA Act credits.
- Among Federal entities, the Postal Service has a unique mission and does not receive appropriations for its operating expenses. The Postal Service takes into consideration Executive Order 13514 and 13423 when developing strategies to reduce fuel consumption and increase fleet operational efficiency. This is discussed in further detail under the Petroleum Savings section of this report.

FY2011 U.S. Postal Service Fleet Compliance

The Postal Service leases and purchases both covered and non-covered LDVs. In FY2011 a total of 106 LDVs were acquired; 82 vehicles were exempted because they are operated primarily outside of a covered MSA or are law enforcement vehicles. The subtraction of these exemptions from the total of 106 LDVs acquired left 24 covered LDVs. Of these 24 vehicles, 10 were AFVs under EPart or the NDAA. The Postal Service also gained 501 credits for biodiesel fuel use and credit for 8 medium-duty AFVs. The combination of AFV acquisitions and biodiesel use earned the Postal Service a grand total of 519 AFV credits in FY2011. As a result, the Postal Service once again exceeded the mandatory 75% EPart requirement with a total EPart percentage of 2,163%, as shown in Table 1.

Table 1. U.S. Postal Service's Acquisition of AFVs in FY2011

EPart-Covered Acquisitions	AFV Acquisition Requirement for FY2011	Total AFV Acquisitions (including credits)	EPart Percentage
24	18	519	2,163%

This is the fourteenth consecutive year that the Postal Service has met or exceeded the minimum EPart AFV acquisition requirement

FY2011 U.S. Postal Service Fleet Fuel Use

Table 2 presents FY2011 fuel consumption data by fuel type for the Postal Service's vehicle fleet. It includes fuel consumption for the 210,331 Postal Service vehicles.

Table 2. U.S. Postal Service Fuel Use in FY2011

Postal Service Fleet Fuel Use In GGE	
From Biodiesel (B100)	247,469
From CNG	30,940
From E-85	496,311
From Electric	2,973
From Propane	4,799
Total Alternative Fuel Use	782,492
From Gasoline	123,075,942
From Diesel	31,165,104
Total Non-Alternative Fuel Use	154,241,046
Total Vehicle Energy Use	155,023,538

Petroleum Savings

Among Federal agencies covered by EPCa, the Postal Service is unique. The mandate for providing universal delivery service requires that its mail distribution and delivery network must constantly adapt to meet the needs of millions of new households and businesses across the country. As a business entity that operates within a highly competitive environment, the Postal Service must also remain acutely sensitive to its customers' needs for affordable service.

The Postal Service's mandate to serve the daily mail delivery needs of growing communities across the country is met largely through its delivery vehicle fleet. While this vehicle-based service mandate is in fundamental conflict with Federal goals to reduce agency motor vehicle fuel consumption, by improving the efficiency of its operations the Postal Service has minimized its fuel requirements. The vast majority of fuel used for daily mail delivery is purchased from local merchants using the Voyager Fleet Credit Card. Letter carriers refuel their vehicles at locations along their routes when possible, thus avoiding the higher costs (in terms of work hours and added fuel consumption) associated with traveling to more distant or specialized fueling points. In addition, mail automation and management initiatives have reduced the absolute number of delivery routes, avoided the creation of routes to support new delivery growth, and increased the average number of deliveries served by individual carriers.

The Postal Service continues to increase the efficiency of the delivery network. The Postal Service regularly reviews its transportation networks and consolidates or eliminates trips where appropriate. These transportation efficiency actions reduce fuel consumption, consistent with Federal goals.

Another factor that influences Postal Service fuel statistics is the agency's decision to provide additional right-hand drive postal vehicles to selected rural delivery routes. The fuel used by these postal vehicles appears as increased consumption for FAST reporting purposes, but in reality it offsets fuel that was formerly used in the rural carriers' privately owned vehicles.

The nature of postal operations, including the unavoidable "stop-and-go" duty cycle of the routes, makes it difficult to obtain significant fuel savings with conventional vehicles. However new technologies such as hybrid electric and dedicated electric vehicles have emerged which likely would give much better gas mileage, especially in stop-and-go situations, and vehicle manufacturers are rapidly bringing this technology to market.

Alternative Fuel Use

The consumption of 496,311 GGE of E85 led alternative fuel usage in FY2011. The fleet also consumed significant amounts of neat biodiesel (247,469 GGE), CNG (30,940 GGE), LPG (4,799 GGE), and electricity (2,973 GGE). In FY2011, the fleet consumed 782,492 GGEs of alternative fuel.

The Postal Service has made a concerted effort to increase alternative fuel use by issuing memoranda to field operations to utilize alternative fuels without compromising our mission. Unfortunately, the cost of alternative fuels, in most cases, is higher than the petroleum fuel; this further exacerbates the Postal Service's strained financial position. To help achieve the goals of reducing petroleum use by 20% and increasing alternative fuel usage by 10%, the Postal Service has added an Energy Reduction Indicator to the National Performance Assessment, a Postal Service system that collects information to monitor performance across the nation. This information is used during annual employee reviews.

The potential to utilize E-85 and other alternative fuels is limited by their commercial availability. Like the general public, the Postal Service relies on local commercial infrastructure to supply convenient and competitively-priced fuel for its delivery fleet. If alternative fuel locations are not conveniently located and competitively priced, the Postal Service cannot access and utilize them in its delivery fleet. While the Postal Service provides information on AFV deployment to interested suppliers and industry advocates to assist in development of fuel infrastructure, postal fleet fuel demand alone may be insufficient to make

new installations cost-effective for commercial fuel providers. Even when alternative fuel is available, if it is not uniquely identified and reported by the merchant's dispensing and recording equipment, the fact of its usage is sometimes lost within the automated invoicing and billing systems. This impacts the Postal Service's ability to report all alternative fuel usage.

CNG consumption went down this year; this is largely due to aging vehicles with failing CNG conversion kits. The conversion kits are over 16 years old and are installed on vehicles that are 20 years old (or older). Over time, parts availability problems, as well as CNG tank regulator-defects and seal failures, have developed in a majority of these vehicles.

Unlike other agencies the Postal Service does not receive Congressional appropriations for its fuel costs. Instead, our fuel costs are funded by sales of postage and services, and we rely on local commercial infrastructure to supply convenient and competitively-priced fuel. As a self-funded entity operating within a highly competitive business environment, the price of alternative fuel on a GGE basis is particularly significant to the Postal Service. Controlled testing of our flexible fuel delivery vehicles has documented a 27% reduction in fuel efficiency when operated on E-85 fuel due to its reduced energy content relative to gasoline. From the standpoint of our business and ratepayer concerns, alternative fuel must be both very conveniently located in order to avoid undue carrier work-hour expense associated with refueling, and competitively priced on a GGE basis.

Alternative Fuel Vehicle Activities

The first hydrogen fuel cell vehicle was added to the fleet in FY2004, a second vehicle was added to the fleet in FY2006 and both vehicles were retired in late FY2007. In FY2008 the USPS signed an agreement with GM to test two 4th generation hydrogen fuel cell vehicles (Equinox). The vehicles were delivered during August 2008 to Irvine, CA and during February 2009 to Washington, DC. These vehicles were returned to GM February 2011.

Below is a summary of some of the current and future activities relating to Postal Service Alternative Fuel Vehicles:

- In December 2009, five companies were awarded contracts to convert a LLV to an eLLV (battery electric vehicle). We will continue testing eLLVs within our network in the DC metropolitan area.
- The Azure Dynamics 2-ton Hybrid test was completed in December 2010. Azure allowed the USPS to use the truck until September 2011.
- The Neighborhood Electric Vehicles (NEV) project started March 1, 2011. E-Ride and Vantage are the two companies that provided a vehicle meeting the Postal Service requirements. Vantage provided 2 vans, 1 with lithium batteries and 1 with lead acid batteries. E-Ride provided 1 "Humvee" style right hand drive (RHD) vehicle with lead acid batteries.
- In December 2011, the Postal Service began testing 10 Navistar eStar 2-ton electric step vans. The program is part of the America Recovery and Reinvestment Act funded through the Department of Energy. The vehicles are being tested in 3 locations, Los Angeles, CA (5 vehicles), Manhattan, NY (3 vehicles), and Fairfax, VA (2 vehicles). The new vehicles will be tested for a period of 2 years. Fuel efficiency, energy usage, maintenance, and vehicle utilization data will be collected during this test.
- Contracts were awarded to convert one Grumman light duty delivery vehicle to a clean diesel drive train and one Grumman light duty delivery vehicle to a fuel efficient gasoline drive train. The Postal Service will take delivery of the re-powered gasoline vehicle prototype February 2012 and the re-powered diesel vehicle prototype by the end of June 2012. The vehicles will be deployed to delivery units in the Washington, DC area for a one year field evaluation. The vehicles are to be placed on curbside routes and will be monitored for fuel efficiency and performance.
- The Postal Service is partnering with New York State Department of Transportation (NYSDOT) and New York State Energy Research and Development Authority (NYSERDA) to purchase alternative powered vehicles to be utilized in the State of New York or New York City area. Currently the Postal Service, NYSDOT, and NYSERDA are reviewing the specifications and draft solicitation. The

agreement is planned to be signed by NYSERDA and the Postal Service in March 2012 and the solicitation is planned to be released in April 2012.

- The Postal Service plans to receive at least one Chevrolet Equinox hydrogen fuel cell vehicle and it will be tested in Hawaii in late spring 2012. The vehicle will be used for 1 year and it will be rotated on different routes to collect operational data on different route types.

Summary

As detailed in this report, the Postal Service once again exceeded minimum EPOAFV acquisition requirements in FY2011, thereby meeting or exceeding the requirements for the fourteenth consecutive year.

Further, we would like to note that USPS is a self-supporting agency that funds its operations from the revenue generated by the sales of products and services not taxpayer subsidies received through the Congressional appropriations process. Currently, the USPS financial condition poses a significant barrier to fund a major acquisition, and for that reason and also to gain financial stability, USPS is taking aggressive steps to increase efficiencies in our network.

Appendix A

2011 AFV Report: Actual Data (FY2011)

1. Actual Light-Duty Vehicle Acquisitions and Exemptions						
	Acquisitions					
	Lease	Purchase	Total			
Total Light-Duty Vehicle Acquisitions	54	52	106			
Fleet Exemptions: Fleet Size	0	0	0			
Fleet Exemptions: Foreign	0	0	0			
Fleet Exemptions: Geographic	0	0	0			
Fleet Exemptions: Non-MSA Operation	0	0	0			
Vehicle Exemptions: LE Vehicle	0	52	52			
Vehicle Exemptions: Non-covered Vehicle	0	0	0			
Vehicle Exemptions: Non-MSA Operation	30	0	30			
Total EPAAct-Covered Vehicles	24	0	24			
2. Actual Alternative Fuel Vehicle Acquisition Detail						
Vehicle Type	Fuel	LE	Acquisitions			EPAAct Credits
			L	P	T	
Light Duty Vehicles						
Sedan/St Wgn Compact	GAS HY	No	2	0	2	2
Sedan/St Wgn Midsize	E85 FF	No	1	0	1	1
LD Minivan 4x2 (Passenger)	E85 FF	No	1	0	1	1
LD Pickup 4x4	E85 FF	No	1	0	1	1
LD SUV 4x4	E85 FF	No	5	0	5	5
LD SUV 4x4	E85 FF	Yes	0	52	52	0
Medium Duty Vehicles						
MD Other	E85 FF	No	5	0	5	5
MD Van (Cargo)	E85 FF	No	3	0	3	3
Totals:			18	52	70	18
3. Actual EPAAct Acquisition Credits Summary						
Base AFV Acquisition Credits:						18
Zero Emission Vehicle (ZEV) Credits:						0
Dedicated Light Duty AFV Credits:						0
Dedicated Medium Duty AFV Credits:						0
Dedicated Heavy Duty AFV Credits:						0
Biodiesel Fuel Usage Credits:						501
Total EPAAct Credits:						519
Overall EPAAct Compliance Percentage:						2,163 %

2011 AFV Report: Planned Data (FY2012)

1. Planned Light-Duty Vehicle Acquisitions and Exemptions						
		Acquisitions				
		Lease	Purchase	Total		
Total Light-Duty Vehicle Acquisitions		0	0	0		
Fleet Exemptions: Fleet Size		0	0	0		
Fleet Exemptions: Foreign		0	0	0		
Fleet Exemptions: Geographic		0	0	0		
Fleet Exemptions: Non-MSA Operation		0	0	0		
Vehicle Exemptions: LE Vehicle		0	0	0		
Vehicle Exemptions: Non-covered Vehicle		0	0	0		
Vehicle Exemptions: Non-MSA Operation		0	0	0		
Total EPCovered Vehicles		0	0	0		
2. Planned Alternative Fuel Vehicle Acquisition Detail						
Vehicle Type	Fuel	LE	Acquisitions			EPCredits
			Lease	Purchase	Total	
(No data found for this section)						
3. Planned EPCovered Acquisition Credits Summary						
Biodiesel Fuel Usage Credits:						0
Total EPCovered Credits:						0
Overall EPCovered Compliance Percentage:						0 %

2011 AFV Report: Projected Data (FY2013)

1. Projected Light-Duty Vehicle Acquisitions and Exemptions						
	Acquisitions					
	Lease	Purchase	Total			
Total Light-Duty Vehicle Acquisitions	0	5,000	5,000			
Fleet Exemptions: Fleet Size	0	0	0			
Fleet Exemptions: Foreign	0	0	0			
Fleet Exemptions: Geographic	0	0	0			
Fleet Exemptions: Non-MSA Operation	0	0	0			
Vehicle Exemptions: LE Vehicle	0	0	0			
Vehicle Exemptions: Non-covered Vehicle	0	0	0			
Vehicle Exemptions: Non-MSA Operation	0	0	0			
Total EPCovered Vehicles	0	5,000	5,000			
2. Projected Alternative Fuel Vehicle Acquisition Detail						
Vehicle Type	Fuel	LE	Acquisitions			EPCredits
			Lease	Purchase	Total	
Light Duty Vehicles						
LD Minivan 4x2 (Cargo)	E85 FF	No	0	5,000	5,000	5,000
Totals:			0	5,000	5,000	5,000
3. Projected EPCovered Acquisition Credits Summary						
Base AFV Acquisition Credits:						5,000
Zero Emission Vehicle (ZEV) Credits:						0
Dedicated Light Duty AFV Credits:						0
Biodiesel Fuel Usage Credits:						521
Total EPCovered Credits:						5,521
Overall EPCovered Compliance Percentage:						110 %

2011 AFV Report: Forecast Data (FY2014)

1. Forecast Light-Duty Vehicle Acquisitions and Exemptions						
	Acquisitions					
	Lease	Purchase	Total			
Total Light-Duty Vehicle Acquisitions	0	5,000	5,000			
Fleet Exemptions: Fleet Size	0	0	0			
Fleet Exemptions: Foreign	0	0	0			
Fleet Exemptions: Geographic	0	0	0			
Fleet Exemptions: Non-MSA Operation	0	0	0			
Vehicle Exemptions: LE Vehicle	0	0	0			
Vehicle Exemptions: Non-covered Vehicle	0	0	0			
Vehicle Exemptions: Non-MSA Operation	0	0	0			
Total EPAAct-Covered Vehicles	0	5,000	5,000			
2. Forecast Alternative Fuel Vehicle Acquisition Detail						
Vehicle Type	Fuel	LE	Acquisitions			EPAAct Credits
			Lease	Purchase	Total	
Light Duty Vehicles						
LD Minivan 4x2 (Cargo)	E85 FF	No	0	5,000	5,000	5,000
Totals:			0	5,000	5,000	5,000
3. Forecast EPAAct Acquisition Credits Summary						
Base AFV Acquisition Credits:						5,000
Zero Emission Vehicle (ZEV) Credits:						0
Dedicated Light Duty AFV Credits:						0
Biodiesel Fuel Usage Credits:						532
Total EPAAct Credits:						5,532
Overall EPAAct Compliance Percentage:						111 %