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MEMORANDUM FOR DEPUTY UNDERSECRETARY OF DEFENSE (INSTALLATIONS
AND ENVIRONMENT)

Subj: UNITED STATES MARINE CORPS FISCAL YEAR 2007 ALTERNATIVE
FUEL VEHICLE (AFV) REPORT

Encl: (1) Fleet AFV Program Report For FY 2007

Ref: (a) DoD 4500.36-R

1. As required by ref (a), the enclosure is submitted.
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U.S. Marine Corps

Fleet Alternative Fuel Vehicle Acquisition Report

Compliance with EPOA and E.O. 13423 in Fiscal Year 2007

This report summarizes the United States Marine Corps Fiscal Year (FY) 2007 fleet performance in meeting the requirements of the Energy Policy Act (EPOA) of 1992 (Public Law 102-486), section 705 of the EPOA of 2005 (Public Law 109-58) and in compliance with Executive Order (E.O.) 13423, "Strengthening Federal Environmental, Energy, and Transportation Management" signed by President Bush on January 24, 2007.

Authority/ Mandate	Performance Measure	Goal/Requirement	USMC Performance in FY 2007
EPOA	Alternative fuel vehicle (AFV) acquisitions	75 percent of the 505 covered light-duty vehicles (LDV) acquired in FY 2007 must be AFVs	Acquired 646 AFVs, earned 208 additional credits ¹ for total of 854 credits; or 169 percent of covered acquisitions
E.O. 13423	Alternative fuel use	Increase the total fuel consumption that is non-petroleum-based by 10% annually.	The Marine Corps alternative fuel use decreased 8.53% in 2007 compared to 2006. This is due to increased numbers and use of vehicles where alternative fuels are not readily available (e.g. recruiting force).
E.O. 13423	Petroleum consumption	Reduce the fleet's total consumption of petroleum products by 2% annually through the end of fiscal year 2015.	The Marine Corps attained a 1% reduction compared to 2005. An end strength increase required 602 more vehicles, driving 5% more miles yet achieving a 5% increase in fuel efficiency.
E.O. 13423	Acquire Plug-In Hybrids	Use Plug-In Hybrid (PIH) vehicles when they are commercially available at a cost reasonably comparable, on the basis of life-cycle cost, to non-PIH vehicles.	Plug-In Hybrids were not available in FY 2007. Efforts are being made to acquire PIH and battery electric vehicles in FY 2008.

¹Earned credits for acquisition of dedicated light-duty AFVs and biodiesel use.

Exhibit 1. USMC Performance in Meeting EPOA and E.O.13423

EPAct Compliance

In FY 2007, for the ninth consecutive year, the Marine Corps exceeded its EPAct requirements. As a result of its AFV acquisitions and biodiesel fuel use, the Marine Corps earned AFV acquisition credits amounting to 169 percent of its covered vehicle acquisitions, which is 94 percentage points higher than the 75 percent AFV acquisition requirement (Appendix A).

Credits

In FY 2007, the Marine Corps earned 854 credits. Federal fleets earn one credit for every bi- or flexible-fuel AFV acquired and for every 450 gallons of neat biodiesel (B100) or 2,250 gallons of B20 (20 percent biodiesel and 80 percent petroleum diesel) used. Additional credits are earned for AFVs that operate exclusively on alternative fuels. The Marine Corps credit summary:

- Acquired 646 AFVs - 276 more than the EPAct requirement of 379 vehicles.
- Received 189 credits for biodiesel use and 19 credits for purchasing 19 dedicated light-duty AFV's for a total of 209 additional credits.
- Earned a total of 854 credits - 169 percent of covered acquisitions.

Vehicles

Flexible-fuel vehicles (FFVs), that run on E85 (85 percent ethanol, 15 percent gasoline) or gasoline, were the AFV of choice in FY 2007. Of the 646 AFVs acquired in FY 2007, 624 of them were FFVs. Also, 22 compressed natural gas (CNG) vehicles were acquired and will continue to be a significant AFV in the Marine Corps inventory.

FFVs capable of operating on E85 comprise the majority of the Marine Corps AFV fleet (Exhibit 2), with CNG vehicles making up most of the balance. As the availability of CNG vehicle models decreases, these vehicle types will become less prevalent in the Marine Corps fleet. Of the 2269 AFVs, only 8 are liquefied petroleum gas (LPG) vehicles.

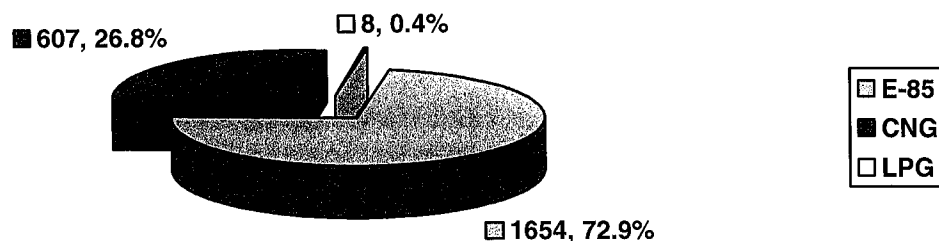


Exhibit 2. USMC's Total AFV Inventory

Exemptions

Of the 2,220 total Light Duty Vehicles (LDVs) acquired by the Marine Corps in FY 2007, 1,715 vehicles (77 percent) were considered exempt from compliance with EPA Act. Exemptions are granted for fleet size, geographic location or use outside a Metropolitan Statistical Area/Consolidated Metropolitan Statistical Area (MSA/CMSA), and use for law enforcement. In FY 2007, exemptions were granted as follows:

- Fleet Size (2)
- Geographic (2)
- Law Enforcement (0)
- Non-MSA/CMSA Operation/Fleet (14)
- Non-MSA/CMSA Operation/Vehicles (1,697)

FY 2008/2009 Projected Acquisitions

The attachments to this report offer a detailed look at the Marine Corps' FY 2007 acquisitions and its projected acquisitions for FY 2008 and FY 2009. As illustrated in Exhibit 3, the Marine Corps exceeded EPA Act requirements since FY 2001 and will continue to exceed these requirements in the next two years (Appendices B and C).

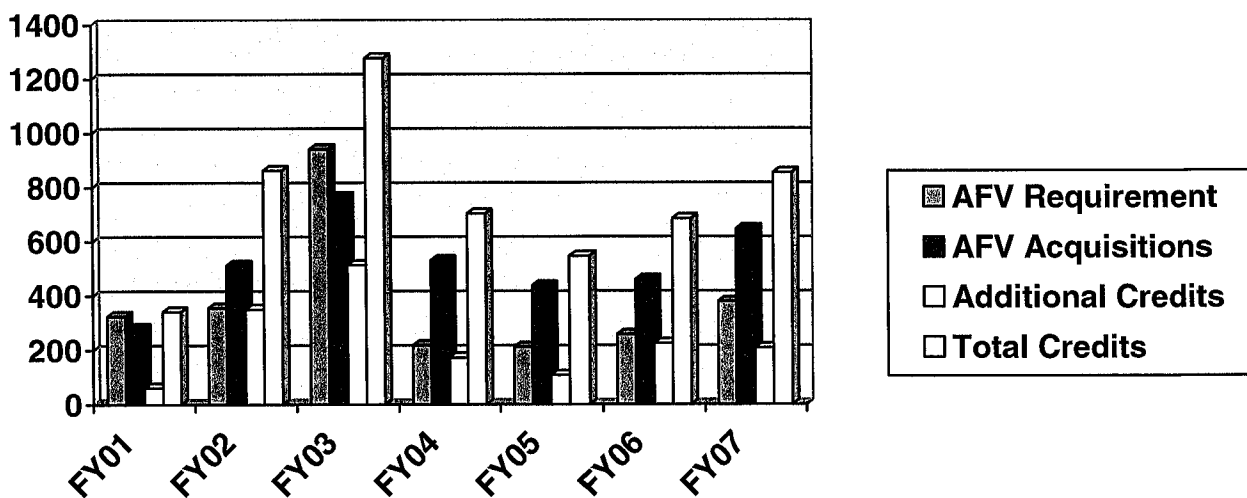


Exhibit 3. EPA Act AFV Requirement, Acquisitions and Credits

E.O. 13423 Compliance

E.O. 13423 calls for each agency to reduce vehicular petroleum consumption by 2 percent annually through the end of the fiscal year 2015, increase their alternative fuel consumption by 10% annually and:

- Comply with EPA's annual AFV acquisition requirements (as previously discussed).
- Use alternative fuels in fleet AFVs 100% of the time, unless a waiver is granted by DoE.
- Use PIH vehicles when available and life-cycle costs are reasonably comparable.

Use Alternative Fuels in AFVs

In FY 2007, 6.96 percent of the total fuel used in the Marine Corps was alternative fuels. As more fuel infrastructure becomes available this percentage will increase. The Marine Corps continues to pursue new alternative fuel infrastructure at Marine Corps Installations across the United States. As this infrastructure comes on line, more alternative fuel will be available for the bi- and flexible-fuel vehicles that dominate the Marine Corps AFV fleet. We will continue to work toward greater access to alternative fuel for fleet vehicles.

Exhibit 4 compares the Marine Corps' covered fuel use in FY 2005 and FY 2007. Alternative fuels comprise a growing portion of the Marine Corps' covered fuel use, representing 6.96 percent in FY 2007, down from 7.23 percent in FY 2005. During this period, the Marine Corps' total covered fuel consumption decreased 1.3 percent.

Fuel Use	FY 2005 (GGE) Base Line	FY 2006 (GGE)	FY 2007 (GGE)
Alternative Fuel			
B100	283,965	315,344	251,994
CNG	316,990	238,542	252,563
E85	5,020	74,359	70,585
Electricity	0	0	0
LNG	0	0	0
LPG	1,154	1,833	1,245
Total Alternative Fuel Use	607,129	630,078	576,387
Petroleum			
Diesel	1,511,736	1,585,199	1,384,161
Gasoline	6,276,612	5,937,358	6,325,068
Total Covered Petroleum Use	7,788,348	7,522,557	7,709,229
Total Covered Fuel Use	8,395,477	8,152,635	8,285,616
Alternative Fuel Use as a Percentage of Total Fuel Use	7.23%	7.7%	6.96%
Percent Alternative Fuel Increase	Base Line	3.78 %	-8.53%

Exhibit 4. USMC Total Covered Fuel Use

Petroleum Consumption Progress Report

Exhibit 5 shows the Marine Corps has increased fuel consumption slightly from FY 2006 to FY 2007. The Marine Corps has started the process to increase its end strength to 202K, resulting in the increase of the fleet from 12,758 vehicles in FY 2005 to 13,360 vehicles in FY 2007. As a result of this increased operational tempo, vehicle miles driven increased by 5 percent. Through added emphasis on efficiency and planning of vehicle procurement the Marine Corps offset some of the additional vehicle use by increasing the average vehicle fuel efficiency by 5 percent. The Marine Corps anticipates the continued increase in vehicles through the next four FY's to meet the recruiting, recruit/specialty training and installations' operations transportation requirements. It should be noted that since 1999, the Marine Corps has already decreased petroleum consumption over 26.77 percent. At this time of increasing commercial vehicle fleet operations, further reducing petroleum consumption presents a challenge.

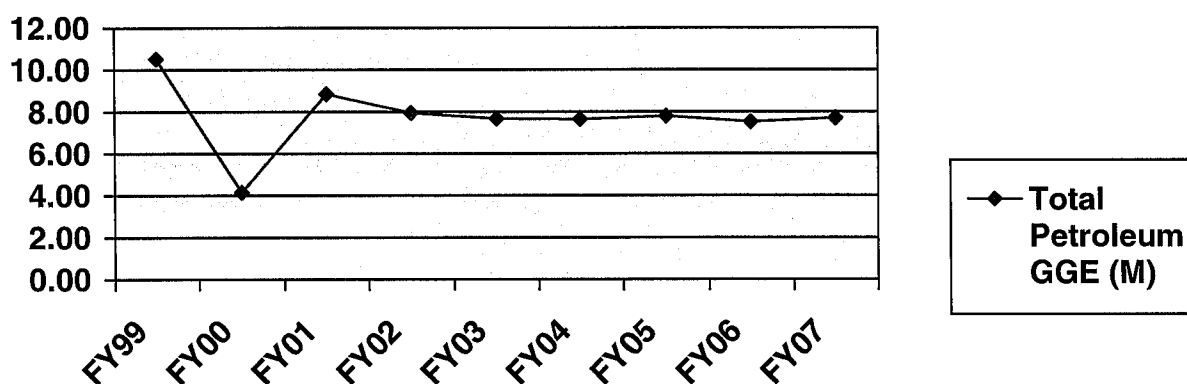


Exhibit 5. USMC Vehicular Petroleum Consumption

USMC Fleet Successes

In FY 2007, the Marine Corps, in addition to pursuing more efficient vehicles and operations, concentrated on expanding our use of alternative fuels, with particular emphasis on E85. It is critical to attain the ability to use E85 in California as this will make a dramatic reduction in the Marine Corps gasoline use aboard Installations and to all Federal Fleets operating in that State.

Neighborhood Electric Vehicles (NEVs) have been successfully utilized at several locations for light hauling and administrative purposes. All Marine Corps installations are finding unique ways to utilize NEV's and reduce the number of petroleum burning vehicles. In FY 2007 the Marine Corps increased its NEV fleet by 53. Although not allowed AFV credits for the acquisition and use of NEVs, it is believed that these

vehicles will play an ever growing and important role in the reduction of petroleum use aboard Installations. The future looks poised to show additional hybrid electric vehicles, plug-in electric hybrids and all electric vehicles which will radically change the way Installations' transportation support is conducted.

Throughout FY 2007, several Bases and Stations were working to install above ground E85 tanks. Marine Corps Air Station Beaufort will open their E85 fueling site in FY 2008 as will Marine Corps Logistics Base Albany GA and we will develop E85 fueling infrastructure across selected installations to include Marine Corps Base Hawaii. This infrastructure will allow the Marine Corps to concentrate on E85 vehicles and to increase the amounts of alternative fuels utilized.

In FY 2007, the Marine Corps trained at all installations, the Fleet Management System FMS which was consolidated into a single database/server and became accessible via the Internet. The use of this FMS will allow the data collection and analysis to pinpoint inefficiencies in fleet and even individual vehicle operations saving fuel and money over time. Vehicle operations monitoring devices are being installed which identify vehicle inefficiencies and mechanical abnormalities that can be fixed quickly and return the vehicle to most efficient operational state.

During FY 2007, approximately 85% of the Marine Corps installations continued the use of B20 biodiesel. As a result, the Marine Corps earned 189 fuel usage credits which were noted in the FY 2007 FAST report. It is the Marine Corps' goal to utilize B20 in all Garrison Mobile Equipment (GME) diesel powered vehicles in FY 2008. Marine Corps Bases in the Southwest Region are the single largest user of biodiesel in the Department of Defense.

Marine Corps Base Camp Pendleton was selected by the Naval Facilities Engineering Service Center for an Environmental Security Technology Certification Program project to test hydrogen fuel cell vehicles and infrastructure in a real world environment. During Oct. 2005, the Marine Corps began testing the GMT800 Fuel Cell pickup truck from General Motors. This was replaced in September of 2006 by the General Motors Equinox Sport Utility Vehicle and remained through March of 2007. It is anticipated that the project will continue by replacing the Equinox with a next generation Fuel Cell vehicle from General Motors and/or from other manufacturers. In the third quarter of FY 2008, the permanent Fuel Cell maintenance facilities as well as a natural gas to hydrogen fuel reformer is expected to be placed into operation.

The Marine Corps is presently testing a Ford Escape E85 Hybrid, one of only 20 in service. This test vehicle offers an important capability to Federal Fleet managers if available in production quantities. The capability to displace gasoline with E85 or achieve increased fuel economy with the hybrid electric system, when E85 is not available, is a key advantage to this technology.



The combined efforts in pursuit of our Alternative Fuel and Vehicle Strategy to improve efficiency and displace petroleum with alternatives, have been recognized by the White House through the Closing the Circle award for Petroleum Reduction in Transportation – Military in 2005 and 2007.

Summary and Conclusions

In FY 2007, the Marine Corps exceeded its EPA AFV acquisition requirements and plans to exceed them in FY 2008 and FY 2009. The Marine Corps continues its efforts to reduce petroleum consumption through increased alternative fuel usage, accelerated replacement of conventional vehicles with AFVs and acquisition of NEV, hybrid electric and fuel efficient vehicles. FY 2008 will hopefully bring the availability of more clean and efficient fuel vehicles such as clean burning diesels, CNG, and Plug-in Hybrids and hybrid electric vehicles using diesel and E85.

Appendices

Appendix A

Actual FY 2007 Light-Duty Vehicle Acquisitions				Total Vehicle Inventory
	Leased	Purchased	Total	
Total number of LDV (8,500 GVWR) - Acquisitions	2,200	20	2,220	7,852
Exemptions	Fleet Size	0	2	4,208
	Geographic	0	2	1,173
	Law Enforcement	0	0	146
	Non-MSA Operation (fleet)	3	11	222
	Non-MSA Operation (vehicles)	1,697	0	(n/a)
EPAct Covered Acquisitions		500	5	505
Actual FY 2007 AFV Acquisitions				Total Vehicle Inventory
Vehicle	Leased	Purchased	Total	
Sedan CNG Bi-Fuel Subcompact	0	0	0	18
Sedan CNG Dedicated Subcompact	19	0	19	43
Sedan CNG Bi-Fuel Compact	0	0	0	0
Sedan CNG Dedicated Compact	0	0	0	1
Sedan E-85 Flex-Fuel Compact	10	0	10	286
Sedan E-85 Flex-Fuel Midsize	18	0	18	50
Sedan CNG Dedicated Large	0	0	0	4
Sedan E-85 Flex-Fuel Large	0	0	0	0
Pickup 4x2 CNG Bi-Fuel	1	0	1	101
Pickup 4x2 CNG Dedicated	0	0	0	105
Pickup 4x2 E-85 Flex-Fuel	87	0	87	395
Pickup 4x2 LPG Bi-Fuel	0	0	0	6
Pickup 4x4 CNG Bi-Fuel	2	0	2	69
Pickup 4x4 CNG Dedicated	0	0	0	44
Pickup 4x4 E-85 Flex-Fuel	37	0	37	102
Pickup 4x4 LPG Bi-Fuel	0	0	0	2
SUV 4x2 E-85 Flex-Fuel	0	0	0	15
SUV 4x4 E-85 Flex-Fuel	13	0	13	95

Minivan 4x2 (Passenger)	E-85 Flex-Fuel	350	0	350	593
Minivan 4x2 (Cargo)	E-85 Flex-Fuel	18	0	18	24
Van 4x2 (Passenger)	CNG Bi-Fuel	0	0	0	1
Van 4x2 (Passenger)	CNG Dedicated	0	0	0	14
Van 4x2 (Passenger)	E-85 Flex-Fuel	71	0	71	76
Van 4x4 (Passenger)	E-85 Flex-Fuel	5	0	5	0
Van 4x2 (Cargo)	CNG Bi-Fuel	0	0	0	3
Van 4x2 (Cargo)	E-85 Flex-Fuel	13	0	13	12
Van 4x2 (Cargo)	CNG Dedicated	0	0	0	8
Bus	CNG Dedicated	0	0	0	16
Pickup MD	CNG Bi-Fuel	0	0	0	28
Pickup MD	E-85 Flex-Fuel	1	0	1	1
SUV MD	E-85 Flex-Fuel	1	0	1	5
Van MD (Passenger)	CNG Bi-Fuel	0	0	0	43
Van MD (Passenger)	CNG Dedicated	0	0	0	63
Van MD (Passenger)	LPG Bi-Fuel	0	0	0	4
Van MD (Cargo)	CNG Bi-Fuel	0	0	0	5
Van MD (Cargo)	CNG Dedicated	0	0	0	32
MD 8,501-16,000 GVWR	CNG Bi-Fuel	0	0	0	3
MD 8,501-16,000 GVWR	CNG Dedicated	0	0	0	6
HD 16,001 + GVWR	CNG Bi-Fuel	0	0	0	3
HD 16,001 + GVWR	CNG Dedicated	0	0	0	1
Total Number of AFV Acquisitions		646	0	646	2,269
Zero Emission Vehicle Credits		0	0	0	
Dedicated LD AFV Credits		19	0	19	
Dedicated MD AFV Credits		0	0	0	
Dedicated HD AFV Credits		0	0	0	
Biodiesel Fuel Usage Credits - Actual				189	
Total AFV Acquisitions with Credits		665	0	854	
AFV Percentage of Covered LDV Acquisitions				169 %	

Appendix B

Planned FY 2008 Light-Duty Vehicle Acquisitions				
		Leased	Purchased	Total
Total number of LDV (8,500 GVWR) - Acquisitions		2,115	15	2,130
Exemptions	Fleet Size	0	1	1
	Geographic	0	4	4
	Law Enforcement	0	0	0
	Non-MSA Operation (fleet)	0	3	3
	Non-MSA Operation (vehicles)	1,644	0	1,644
EPAct Covered Acquisitions		471	7	478
Planned FY 2008 AFV Acquisitions				
Vehicle		Leased	Purchased	Total
Sedan	CNG Bi-Fuel Subcompact	22	0	22
Sedan	CNG Dedicated subcompact	11	0	11
Sedan	CNG Bi-Fuel Compact	1	0	1
Sedan	E-85 Flex-Fuel Compact	226	0	226
Sedan	E-85 Flex-Fuel Midsize	9	0	9
Sedan	CNG Dedicated Large	3	0	3
Pickup 4x2	CNG Bi-Fuel	58	0	58
Pickup 4x2	CNG Dedicated	28	0	28
Pickup 4x2	E-85 Flex-Fuel	109	0	109
Pickup 4x2	LPG Bi-Fuel	6	0	6
Pickup 4x4	CNG Bi-Fuel	20	0	20
Pickup 4x4	E-85 Flex-Fuel	6	1	7
Pickup 4x4	LPG Bi-Fuel	1	0	1
SUV 4x2	E-85 Flex-Fuel	4	0	4
SUV 4x4	E-85 Flex-Fuel	14	0	14
Minivan 4x2(Passenger)	E-85 Flex-Fuel	128	0	128
Van 4x2 (Passenger)	E-85 Flex-Fuel	17	0	17
Van 4x2 (Cargo)	E-85 Flex-Fuel	11	0	11
Pickup MD	CNG Bi-Fuel	12	0	12
Van MD (Passenger)	CNG Bi-Fuel	13	0	13
Van MD (Passenger)	CNG Dedicated	18	0	18
Van MD (Cargo)	CNG Bi-Fuel	1	0	1
Van MD (Cargo)	CNG Dedicated	5	0	5
Total Number of AFV Acquisitions		723	1	724
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		42	0	42
Dedicated Medium-Duty AFV Credits		46	0	46

Dedicated Heavy-Duty AFV Credits	0	0	0
Biodiesel Fuel Usage Credits - Planned			179
Total AFV Acquisitions with Credits	811	1	991
AFV Percentage of Covered Light-Duty Vehicle Acquisition			207 %

Appendix C

Projected FY 2009 Light-Duty Vehicle Acquisitions				
		Leased	Purchased	Total
Total number of LDV (8,500 GVWR) - Acquisitions		1,650	5	1,655
Exemptions	Fleet Size	0	0	0
	Geographic	0	3	3
	Law Enforcement	0	0	0
	Non-MSA Operation (fleet)	0	1	1
	Non-MSA Operation (vehicles)	1,281	0	1,281
EPAct Covered Acquisitions		369	1	370
Projected FY 2009 AFV Acquisitions				
Vehicle		Leased	Purchased	Total
Sedan	CNG Dedicated Subcompact	13	0	13
Sedan	E-85 Flex-Fuel Compact	108	0	108
Sedan	E-85 Flex-Fuel Midsize	19	0	19
Pickup 4x2	CNG Bi-Fuel	9	0	9
Pickup 4x2	CNG Dedicated	12	0	12
Pickup 4x2	E-85 Flex-Fuel	92	0	92
Pickup 4x4	CNG Bi-Fuel	8	0	8
Pickup 4x4	CNG Dedicated	2	0	2
Pickup 4x4	E-85 Flex-Fuel	4	0	4
Pickup 4x4	LPG Bi-Fuel	1	0	1
SUV 4x2	E-85 Flex-Fuel	1	0	1
SUV 4x4	E-85 Flex-Fuel	18	0	18
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	155	0	155
Van 4x2 (Passenger)	E-85 Flex-Fuel	12	0	12
Van 4x4 (Passenger)	E-85 Flex-Fuel	1	0	1
Van 4x2 (Cargo)	E-85 Flex-Fuel	4	0	4
Pickup MD	CNG Bi-Fuel	7	0	7
Van MD (Passenger)	CNG Bi-Fuel	18	0	18
Van MD (Passenger)	CNG Dedicated	9	0	9
Van MD (Cargo)	CNG Bi-Fuel	2	0	2
Van MD (Cargo)	CNG Dedicated	19	0	19
Total Number of AFV Acquisitions		514	0	514
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		27	0	27
Dedicated Medium-Duty AFV Credits		56	0	56
Dedicated Heavy-Duty AFV Credits		0	0	0
Biodiesel Fuel Usage Credits - Projected				139
Total AFV Acquisitions with Credits		597	0	736
AFV Percentage of Covered LDV Acquisitions				199 %

Appendix D

List of Acronyms

Acronym	Phrase
AFV	Alternative Fuel Vehicle
B100	Biodiesel (100 percent, neat)
B20	Biodiesel (20 percent biodiesel, 80 percent petroleum diesel)
CNG	Compressed Natural Gas
DOE	U.S. Department of Energy
E85	Ethanol (85 percent ethanol, 15 percent petroleum)
E.O.	Executive Order
EPAct	Energy Policy Act
FFV	Flexible Fuel Vehicle
FR	Federal Register
FY	Fiscal Year
GGE	Gasoline Gallon Equivalent
GVWR	Gross Vehicle Weight Rating
HD	Heavy-Duty
INL	Idaho National Laboratory
LD	Light-Duty
LDV	Light-Duty Vehicle
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas (Propane)
MD	Medium-Duty
MPG	Miles Per Gallon
MSA/CMSA	Metropolitan Statistical Area/Consolidated Metropolitan Statistical Area
SUV	Sport Utility Vehicle