INEEL/EXT-01-01355
October 2001

Field Operations Program

Incremental Funding Activities Final Status Report

J. Francfort
M. Carroll
L. Slezak

INEEL/EXT-2001-01355

Field Operations Program

Incremental Funding Activities Final Status Report

J. Francfort
M. Carroll
L Slezak

Published October 2001

Idaho National Engineering and Environmental Laboratory
Transportation Technologies and Infrastructure Department
Idaho Falls, Idaho 83415

Prepared for the
U.S. Department of Energy
Under DOE Idaho Operations Office
Contract DE-AC07-99ID13727

SUMMARY

The U.S. Department of Energy (DOE) has provided $998,300 in incremental funding to support the deployment of 220 electric vehicles in 36 Federal fleets. The 145 electric Ford Ranger pickups and 75 electric Chrysler EPIC minivans are operating in 14 states and the District of Columbia. The DOE incremental funding support averages $4,500 per vehicle over 3 years.

The electric vehicles are driven a total of 543,603 miles per year, which saves over 30,000 gallons of gasoline each year and reduces annual smog-forming emissions by about 1,123 pounds.

All of the vehicles are leased, most for 36 months. As of July 2001, Ford and Chrysler have delivered all 220 vehicles. While 54% of the vehicles have had problems, almost all of the problems have been solved, and their frequency seems to be decreasing. Eleven percent of the installed charge controllers and connectors had problems; these appear mostly minor. Seventy-four percent of the vehicles have been replacement vehicles, 96% of which replaced gasoline vehicles. Most fleet owners have been happy with their vehicles. Positive comments outnumber negative comments by more than 2 to 1.

Consideration should be given to bringing together some of the 36 fleet managers at a government-sponsored conference, such as IMEAC (Interagency Motor Equipment Advisory Council) or FedFleet (Federal Fleet Policy Council), for a session on advanced technology vehicle (ATV) deployment. It might be instructive to hear suggestions on how to successfully deploy ATVs, pitfalls to avoid, and whether the fleet managers would willingly repeat their experiences.

CONTENTS

FIGURES

Field Operations Program

Incremental Funding Activities Final Status Report

1. BACKGROUND

Section 6 of Executive Order 13031, "Federal Alternative Fueled Vehicle Leadership," mandated that the U.S. Department of Energy (DOE) provide owners of Federal fleets incremental funding to support the purchasing or leasing of electric vehicles. The first fleet to take advantage of the funding (during 1998) was the U.S. Department of Agriculture in Miami, Florida. Thirty-five additional Federal fleets received incremental funding from DOE during calendar years 1999, 2000, and 2001. Funding was for half the incremental cost (that is, the difference between the electric vehicle lease cost and the General Services Administration [GSA] lease cost for the gasoline vehicle equivalent) up to a total of $10,000 per vehicle.

Executive Order 13031 was superseded in April 2000 by Executive Order 13149, "Greening the Government through Federal Fleet and Transportation Efficiency." Executive Order 13149 does not provide for incremental funding; thus, the funding activities reported herein have ended. Eight electric vehicle acquisitions were in process when the new executive order was signed. All of these acquisitions have been finalized.

All 36 Federal fleets that received electric vehicle incremental funding from DOE were contacted and asked a series of questions. Appendix A presents the responses from each fleet. The summary responses are included in the discussion below, which describes DOE's electric vehicle incremental funding activities for the 220 vehicles over the three years.

2. PROGRAM STATUS

DOE provided the 36 Federal fleets (Figure 1) with $998,300 in incremental funding support for leasing the 220 electric vehicles, which include 145 electric Ford Ranger pickups and 75 electric Chrysler EPIC minivans. The 145 electric Rangers represent about 10% of all the electric Rangers produced by Ford; the 75 EPICs represent about 40% of all the electric EPICs leased by Chrysler in California. The 36 Federal fleets are located in 14 states and the District of Columbia. The state with the most leased vehicles receiving incremental funding is California (Figure 2), where 139 vehicles have been leased.

DOE made the incremental funding available through its Field Operations Program and through the GSA. This allowed those Federal fleets that normally leased gasoline vehicles through GSA to also lease electric vehicles through GSA (a total of 100 vehicles), with DOE providing the incremental funding directly to GSA. However, GSA discontinued this option as of the last quarter of calendar year 2000. For Federal fleets that preferred to lease electric vehicles directly from Ford or Chrysler (a total of 120 vehicles), DOE's Idaho National Engineering and Environmental Laboratory (INEEL) provided the incremental funding directly to the Federal fleets. GSA did sign six pass-through leases between Ford

and the Federal fleets during the first quarter of 2001, but the incremental funding was sent directly to the respective fleets by the INEEL. The six Rangers are counted as part of the 120 vehicles receiving incremental funding through the INEEL.

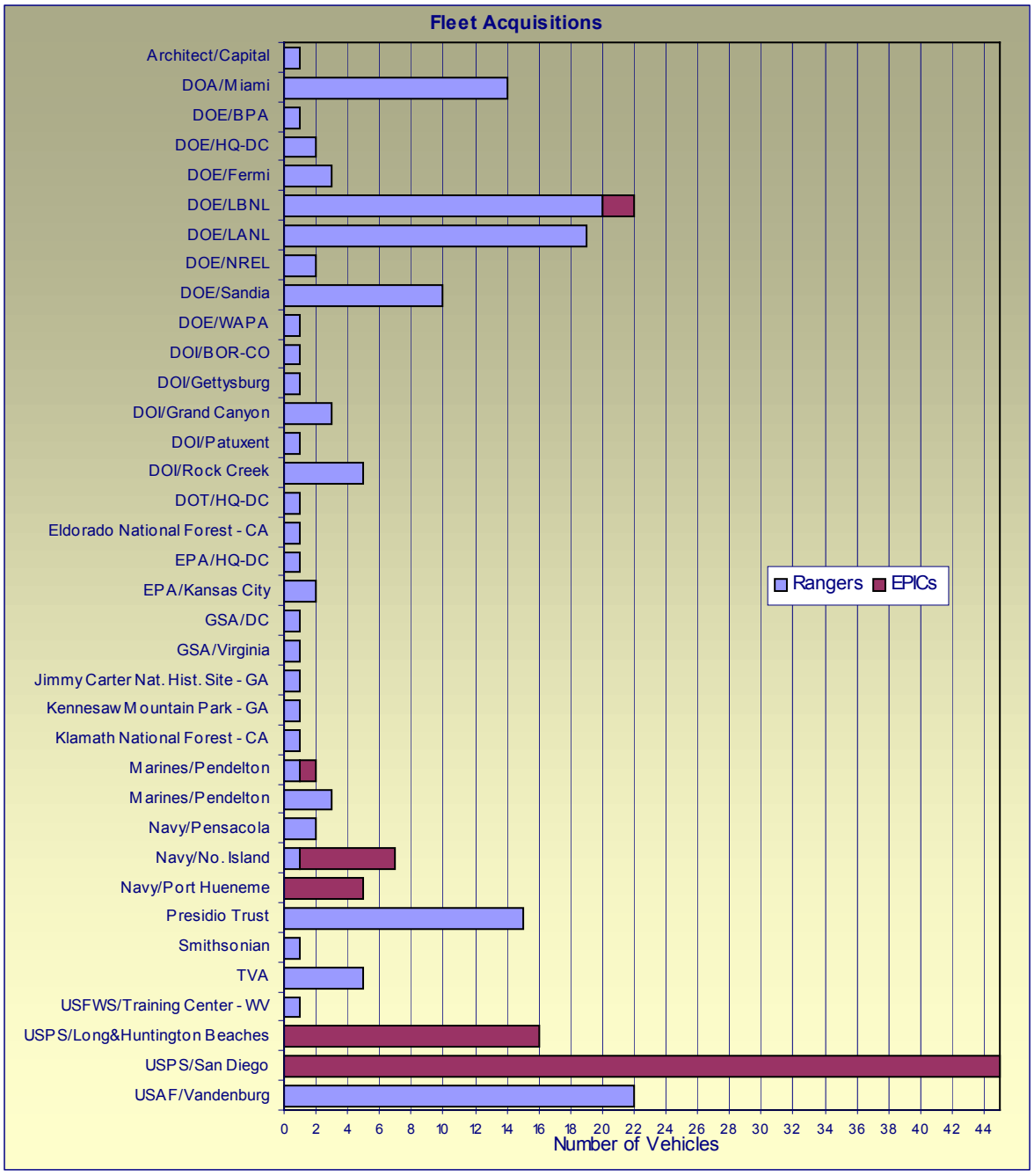

Figure 1. Number of electric Ford Rangers and Chrysler EPICs leased by each Federal fleet. See the individual worksheets in Appendix A for an explanation of the abbreviations.

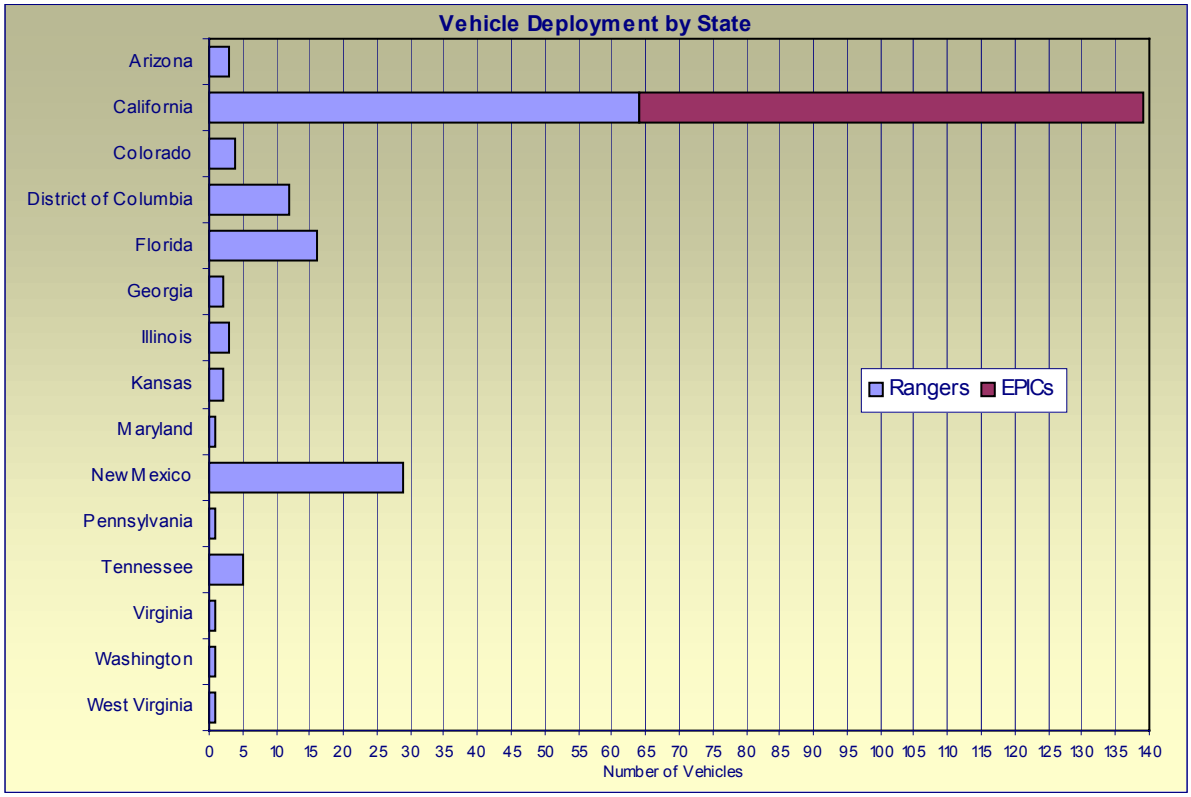

Figure 2. Number of electric Ford Rangers and Chrysler EPICs leased by Federal fleets in each state.

The INEEL is managing the incremental funding for the 220 vehicles as part of its Field Operations Program activities. Including the time required for reporting, the INEEL has spent about 350 hours managing this program over the last 2 years.

3. VEHICLE LEASES AND VEHICLE COSTS

The Federal fleets received an average of about $4,500 in incremental funding per vehicle over the 3 years. This varied somewhat, depending on the cost of the lease, the length of the lease, and the fleet location. The first 62 Ford Rangers and all of the 75 Chrysler EPICs leased in California cost $450 per month, per vehicle. The 62 California Rangers and the 75 EPICS were equipped with the more expensive nickel-metal hydride (NiMH) battery packs. The lease rate for the NiMH-equipped vehicles was actually higher, but various California incentives lowered the cost to the Federal fleets to $450 per month. An additional two Ford Rangers with lead-acid batteries have been leased in California, for about $350 per month.

With one exception, the remaining 81 Rangers were equipped with lead-acid batteries, and they also were leased for about $350 per vehicle per month. One NiMH-equipped Ranger was leased in Virginia; the lease rate was $614 per month.

The EPIC minivan is no longer available, but Ford is still making lead-acid equipped Rangers in limited numbers. The monthly lease rate, however, is about $600 per month.

The incremental cost is determined by comparing the electric vehicle lease cost to the GSA lease cost of a similar type of gasoline vehicle. For small gasoline pickups, the GSA lease cost is $220. For gasoline minivans, the GSA lease cost is $243. DOE paid half the incremental cost, that is, half the difference between the electric vehicle lease cost and the GSA lease cost for the gasoline vehicle equivalent.

The actual lease terms between the Federal fleets and either Ford, Chrysler, or GSA varied. Most lease agreements were for 36 months, with 36 equal monthly payments. A few lease agreements were as short as 10 months. Some leases specified a single up-front balloon payment that covered the entire 36 months of vehicle use. Other leases included a series of three 12-month agreements, with a single balloon payment at the beginning of each 12-month period. The Federal fleets received a discount if they signed a 36-month lease and made a single up-front balloon payment. This was also true when signing a series of three 12-month leases, each with an annual balloon payment. Only a few of the Federal fleets were able to take advantage of the balloon payments, owing to procurement rules at many Federal agencies.

Whether or not the vehicles would have been ordered if incremental funding were unavailable was not specifically asked during the survey. However, this question was informally addressed when the Federal fleets originally requested incremental funding. Every Federal fleet that received incremental funding told the INEEL that they would not have been able to order electric vehicles without the incremental funding. Federal fleets did order, however, about 50 electric vehicles during the two years that electric vehicles were available and before the incremental funding was available.

4. AGENCY VEHICLE ORDERS AND FUNDING

When looking at leasing activities sorted by governmental agencies and departments, the United States Postal Service (USPS) ordered the most electric vehicles (Figure 3) through the Incremental Funding Program. The USPS ordered 61 EPICs and placed them in three locations. The USPS is unique among Federal agencies and departments in taking advantage of the incremental funding, as it is able to generate its own revenue to help lease vehicles, and it has a very large fleet to integrate vehicles into. Most other agencies indicated that they had great difficulty paying for vehicles that cost more than gasoline equivalents.

Department of Energy fleets ordered the second highest number of vehicles (60), which they integrated into eight fleets. In descending order, some of the other vehicle deployments included the following:

- Department of Defense, 41 vehicles in six fleets
- Department of Agriculture, 16 vehicles in three fleets
- Presidio Trust, 15 vehicles in one fleet
- Department of Interior, 14 vehicles in eight fleets.

Most other agencies and departments placed their electric vehicles into one or two fleets.

The eight Department of Energy fleets that took advantage of the incremental funding received over $375,000 in total funding (Figure 4). The USPS received the second-largest funding total, $227,000. There was significant variation in the total cost per leased vehicle. This resulted from variations in model costs (minivan versus pickup and lead-acid versus nickel metal hydride batteries), locations (various

California entities offered additional incremental funding for vehicles with advanced batteries), and the length (and thus the cost) of the leases (from 10 to 36 months).

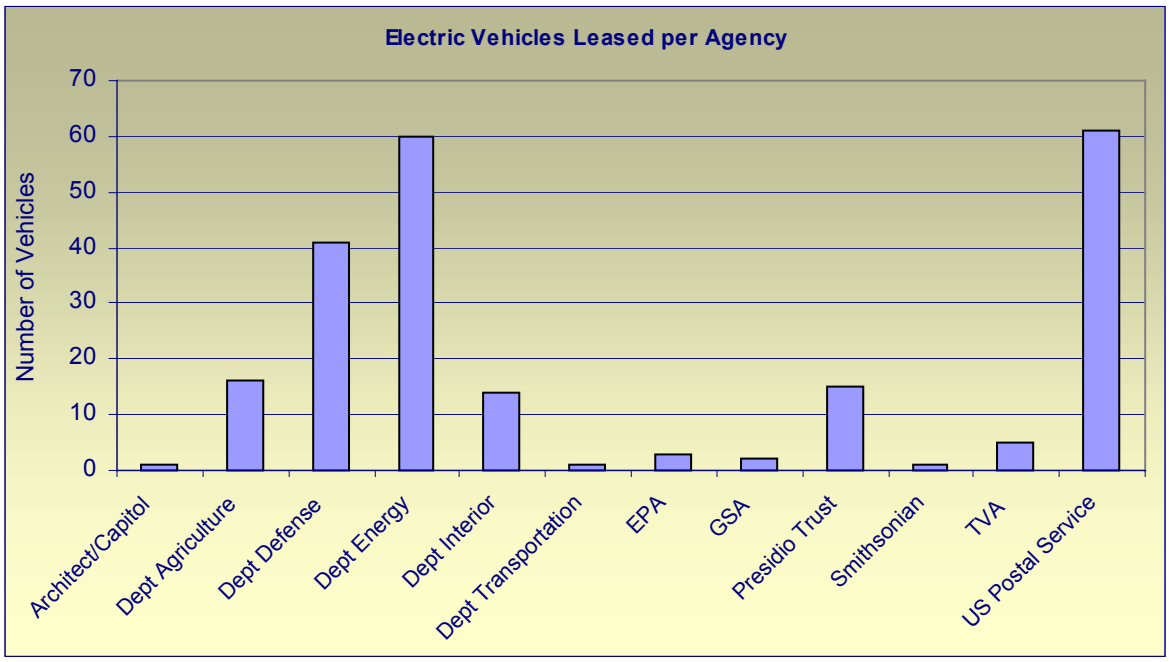

Figure 3. Electric Rangers and EPICs leased by participating Federal agencies and departments.

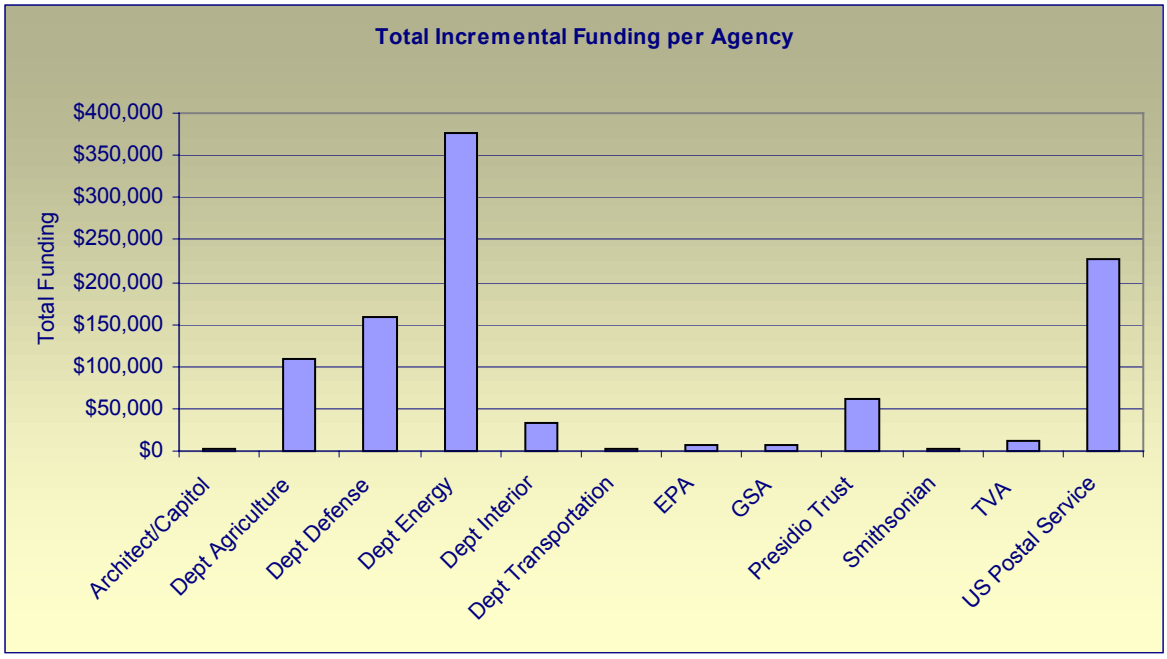

Figure 4. Incremental funding received by each of the participating Federal agencies and departments.

5. VEHICLE DELIVERY STATUS

All 220 vehicles ordered with DOE incremental funding support have been received and are being used in fleet applications. Originally, there were 221 vehicles. The one undelivered vehicle is a Ford Ranger obtained by personnel from GSA's Fort Worth, Texas office before Christmas (2000). As it was being driven from the local Ford dealer, the state of charge became depleted after only 15 miles. The dealer retrieved the Ranger and awaited a replacement part. After a few months, the Ford dealer informed GSA that they were unable to find the part needed to fix the vehicle. GSA made the decision not to lease the Ranger at this time and the lease was terminated.

6. MILES DRIVEN, PETROLEUM DISPLACEMENT, AND EMISSIONS AVOIDED

For this report, the Federal fleet managers were asked how many miles each of the Rangers and EPICs are being driven annually. The electric Rangers are being driven an average of 1,991 miles annually, for a 145-vehicle total of 288,738 miles per year. The EPICs are beginning driven an average of 3,398 miles annually, for a 75-vehicle total of 254,865 miles per year. The entire 220 fleet of vehicles is being driven a total of 543,603 miles per year.

The Rangers and EPICs replaced a large variety of mostly older, gasoline-powered vehicles with poor fuel-use rates. (The exact number of Rangers and EPICs used as replacement vehicles is discussed in the Fleet Vehicle Replacements section below.) The exact miles per gallon (mpg) for the variety of pickups, full-size sedans, Grumman postal vehicles, and older minivans replaced by the Rangers and EPICs is not known. However, we assume that their average mpg use of gasoline was not as good as today's more fuel-efficient vehicles. For those vehicles that were new additions to the Federal fleets (versus a replacement vehicle), it is assumed that if an electric EPIC or Ranger were not available as a new vehicle, a similar type of gasoline-powered vehicle would have been obtained by the Federal fleets.

Based on the Environment Protection Agency's Fuel Economy Guide for model year 2000 (http://www.fueleconomy.gov/feg/FEG2000.htm), an average fuel economy of 18 mpg is assumed for calculating the petroleum displaced (amount of gasoline consumption avoided) by using the electric vehicles. The 18-mpg figure is based on vehicles equipped with 6-cylinder gasoline engines used in city driving, which is the most typical type of drive-cycle used. (The performance of the electric Rangers and EPICs exceeds that of comparable models equipped with 4- and 6-cylinder engines). Therefore, based on the 543,603 average annual miles driven for the 220 vehicles, the average annual petroleum displaced is 30,200 gallons of gasoline.

Definitively determining the air pollution benefits for the 220 electric vehicles is more difficult than determining the petroleum displacement benefits because the emissions data for the older vehicles is very difficult to obtain, and the actual emissions on a per-vehicle basis depends on how well the vehicle is maintained and how it is driven. However, some very conservative assumptions allow for calculating the pounds of smog-forming emissions avoided by using the 220 electric vehicles. Data for currently available vehicles is again used, knowing that such technological advancements as catalytic converters, exhaust gas recirculation, and electronic fuel controls have made today's vehicles cleaner than the vehicles replaced by the EPICs and Rangers. According to the EPA Green Vehicle Guide (http://www.epa.gov/autoemissions/), today's minivans and pickups (similar to the EPIC and Ranger) emit about 31 pounds of smog-forming pollution per 15,000 miles. Given the 543,603 miles annually driven by the 220 electric vehicles, their use reduces emission by at least 1,123 pounds of smog-forming emissions annually.

7. VEHICLE PROBLEMS

Fifty-four percent of the 220 EPICs and Rangers have had various mechanical problems. On a per-model basis, 52% of the Rangers and 57% of the EPICs had at least one problem. The three primary problem areas were battery packs (replaced in 31 Rangers and 7 EPICs), coolant pumps (replaced in 37 EPICs), and wiring harnesses (replaced in 20 Rangers). Other, less-frequent vehicle problems include:

- Power steering pump, 5 Rangers
- Minor electrical, 2 Rangers
- Engine warning and service lights, 4 Rangers
- Sensor, 1 Ranger
- Air conditioning, 1 Ranger
- Short in ABS brake system, 2 Rangers
- Transaxle, 2 Rangers
- Bolts, 10 Rangers
- Power limit gauge, 1 Ranger
- Water pump, 1 Ranger
- Charging system light, 3 Rangers
- 12-volt battery replaced, 1 Ranger
- Sporadic speedometer, 5 EPICs
- Back window broken when received, 1 Ranger.
- Gear shift, 1 Ranger
- Battery control module, 1 Ranger
- Power steering, 1 Ranger

8. INFRASTRUCTURE PROBLEMS

The Rangers (Figure 5) and EPICs are equipped with onboard chargers. Their off-board infrastructure requirements consist of intelligent connector stations and a connector (the plug). It appears that the connector infrastructure-to-vehicle ratio for the 220 vehicles is one-to-one. That is, one connector was installed for each vehicle. While a majority (89%) of the connector infrastructure did not have any problems, 25 of the installations did experience problems. Most of the 25 reported problems were minor. Identified problems include the following:

- Charger drains the battery, 1 Ranger
- Bad connector, 2 Rangers
- Charger motherboard failure, 4 Rangers
- Bad speakers in the talking connector stations, 6 EPICs, 2 Rangers.

- Cable strain, 1 Ranger
- Ground fault error, 1 Ranger
- Blown fuse on power supply, 1 Ranger

Figure 5. Ford Ranger parked in front of a charging station.

9. FLEET VEHICLE REPLACEMENTS

Of the Rangers and EPICs received, 74% are being used as replacement vehicles. That is, when the Rangers and EPICs are received, the fleets retire or excess older vehicles they were previously using. The 162 vehicles replaced 156 gasoline vehicles, 1 diesel vehicle, and 5 compressed natural gas vehicles, as follows:

- Dodge Ram and Dakota gasoline pickups, 15
- S-10 gasoline pickup retrofit, 21
- 1956 Jeep with 1946 diesel motor, 1
- Full-size Ford gasoline sedan, 1
- Chrysler gasoline sedan, 1
- Miscellaneous gasoline minivans and sedans, 20
- Ford gasoline Rangers, 6
- Ford gasoline Aerostar minivans, 2
- Variety of light-duty gasoline trucks, 22

- Compressed natural gas trucks, 5
- Chevy gasoline utility truck, 1
- Chevy gasoline pickup, 1
- USPS gasoline Grumman and Windstar vehicles, 61
- Ford gasoline F-150 pickup, 1
- Chevy gasoline sedan, 1
- Unknown types of gasoline vehicles, 3.

10. GENERAL COMMENTS

Many of the Federal fleets volunteered general comments about their overall satisfaction with the Rangers and EPICs. Most fleet owners were generally satisfied with the vehicles, as we received many more positive than negative comments. Both negative and positive comments are summarized below:

Generally satisfactory comments:

- Very happy with vehicle (nine comments)
- Thoroughly enjoy it
- I think they're great (two comments)
- Wonderful
- They are working out well, quite happy
- Ideal vehicle for mission
- Works well for how vehicle is used
- The vehicle is great for what we do
- Its great for what we use it for
- Perfect for our site
- Wants extension on vehicle lease
- Wish we could get more
- Thinking of leasing more.
- Could use more vehicles
- Looking to order 15 more
- Very nice ride
- Supports clean air in Presidio
- Great impact on civilian and Government population
- It may cost as much to charge as to put gas in, but it is still cleaner
- Better equipped (new Rangers compared to older models)

- Very happy with overall performance
- Responsive
- Very good performers, no lack of power
- Everyone loves initial acceleration
- Acceleration adequate
- I really like it
- Ford was very helpful
- Good truck, practicable, durable
- Reliable
- Decent vehicle
- Fine and great
- Great vehicles, very powerful
- No complaints
- So far so good
- Worried about cold weather, but have experienced no problems
- Good as can be expected
- Good deal
- Extremely pleased
- Runs great
- Pretty happy.

Generally unsatisfactory comments:

- Winter drains batteries quicker than in the summer
- Mileage not as good in mountainous areas
- Gas costs as much as charging the vehicles
- Distance a limitation
- It rides rough (two comments)
- Looking at hybrids
- Range decreases in winter (two comments)
- Longer-life batteries would help
- Builds memory (battery) – only charges to last mileage
- Would be nice if they had more range (seven comments)
- When slowing down and hitting a bump, feels like engine stops breaking
- People can't hear the vehicle coming, so drivers need to be more cautious

- Worthless, not dependable (this and the next two comments made by the same fleet)
- Drivers don't want them
- Spends 6+ months in shop before being returned
- Maintenance on vehicles takes too long when leasing the vehicle.

After reviewing the data and talking to the Federal fleets, it appears that the overall attitude toward the electric vehicles is positive. Over the last 3 years, most problems have been fixed, and the incidence of problems is decreasing.

Appendix A

Incremental Funding Survey Responses

The following 37 tables contain the individual responses received during telephone interviews conducted by the INEEL. The same questions were asked of each fleet contact that received incremental funding from DOE. Note that there are two sheets for the Marines at Camp Pendelton, as there are two different Camp Pendelton fleets that ordered vehicles. Each fleet was contacted separately. The 37th fleet is the General Services Administration (GSA) fleet in Texas (Page A-31) that did not end up with an electric vehicle, nor incremental funding. The Ranger that was returned by the Texas GSA fleet is not included as one of the 220 vehicles discussed in this report.

Agency: Architect of the Capitol	**Location:** Washington, D.C.
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 2,000	**Average Annual Miles per Vehicle:** 1,000
Incremental Funding Provided by DOE: $2,322	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	2 years
How many miles have been accumulated?	2,000 miles, approximately 5 miles a day.
Have you had any problems with the vehicle?	The battery pack had to be replaced within the first 6 months. When weather gets above 95 degrees, there are problems with the bearings in the power steering pump.
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Yes
What kind of vehicle did it replace?	Chevy S-10 gasoline retrofit
What is the vehicle used for?	Running around on Capitol Hill from job site to job site.
Comments: Very pleased. Have recently leased two more electric vehicles.	

Agency: Department of Agriculture (DOA) – Customs Service	**Location:** Miami, Florida
Vehicle Model: Ranger	**# Leased:** 14
Total EV Miles: 43,000	**Average Annual Miles per Vehicle:** 2,048
Incremental Funding Provided by DOE: $104,000	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	In their 3rd year
How many miles have been accumulated?	Collectively 43,000 at end of 2nd year minus 6 months.
Have you had any problems with the vehicle?	Problems with batteries only lasting 6-8 months. Ford replaced the battery packs in all 14 vehicles with different model batteries from a new manufacturer.
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Replaced
What kind of vehicle did it replace?	14 gasoline powered Dodge Rams and Dakotas.
What is the vehicle used for?	Transportation around the site.
Comments: The lease is up in August and they would like to extend the lease.	

Agency: Department of Agriculture (DOA) Eldorado National Forest	**Location:** Vallejo, California
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 750	**Average Annual Miles per Vehicle:** 1,125
Incremental Funding Provided by DOE: $2,385	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	Early December
How many miles have been accumulated?	750, approximately twice a week, 10 miles a day
Have you had any problems with the vehicle?	No
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Local running around
Comments: Pretty happy with the electric vehicle.	

Agency: Department of Agriculture (DOA) Klamath National Forest	**Location:** Yreka, California
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 0	**Average Annual Miles per Vehicle:** N/A
Incremental Funding Provided by DOE: $2,385	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	beginning of April, 2001
How many miles have been accumulated?	900, approximately 10 miles a day, 5 days a week
Have you had any problems with the vehicle?	had to replace batteries
Have you had any problems with the infrastructure/charge connector?	Haven't received it yet.
Did the EV replace another vehicle or was it an addition to the fleet?	yes
What kind of vehicle did it replace?	gas powered Ranger
What is the vehicle used for?	running errands
Comments: Good deal. Would like vehicle to get more mileage.	

Agency: Department of Defense (DOD) - Marines, Camp Pendelton	**Location:** California
Vehicle Model: Ranger, EPIC	**# Leased:** 1 Ranger, 1 EPIC
Total EV Miles: 2,700	**Average Annual Miles per Vehicle:** 400; 2,500
Incremental Funding Provided by DOE: $7,866	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	Ranger – 6 months, EPIC – 1 year
How many miles have been accumulated?	200 and 2,500
Have you had any problems with the vehicle?	12-volt battery died in the Ranger
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Ranger - delivery of parts, EPIC - local transport.
Comments: Limited Range.	

Agency: Department of Defense (DOD) Marines, Camp Pendelton	**Location:** California
Vehicle Model: Ranger	**# Leased:** 3
Total EV Miles: 8,500	**Average Annual Miles per Vehicle:** 1 – 3,750; 2 – 4,500
Incremental Funding Provided by DOE: $12,420	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	May of 2000
How many miles have been accumulated?	1 – 2,500 2 – 3,000 3 – 3,000
Have you had any problems with the vehicle?	Part needed to be replaced. Part unknown.
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Replacement
What kind of vehicle did it replace?	3 gasoline Rangers
What is the vehicle used for?	One driven by Colonel, rest used for transportation around base.
Comments: Very happy, have leased 2 more electric vehicles. It may cost as much to charge an electric vehicle as it is to put gas in a gasoline vehicle, but it is still cleaner.	

Agency: Department of Defense (DOD) Navy, Pensacola	**Location:** Florida
Vehicle Model: Ranger	**# Leased:** 2
Total EV Miles: 651	**Average Annual Miles per Vehicle:** 667, 895
Incremental Funding Provided by DOE: $2,451	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	August of 2000
How many miles have been accumulated?	1 – 278 2 – 373
Have you had any problems with the vehicle?	One spent first two months in the shop with charging problems.
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Replaced
What kind of vehicle did it replace?	2 gasoline powered Rangers
What is the vehicle used for?	Utilities group uses to check power lines.
Comments: They're great. With more range they would be even better.	

Agency: Department of Defense (DOD) Navy, North Island Station	**Location:** San Diego, California
Vehicle Model: Ranger and EPIC	**# Leased:** 1- Ranger, 6-EPICs
Total EV Miles: ?	**Average Annual Miles per Vehicle:** ?
Incremental Funding Provided by DOE: $26,496	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	EPICs received 12/99, Ranger received 1st week of January.
How many miles have been accumulated?	?
Have you had any problems with the vehicle?	Replaced coolant pumps in all six EPICs.
Have you had any problems with the infrastructure/charge connector?	Replaced speakers in all charging units.
Did the EV replace another vehicle or was it an addition to the fleet?	3 Additions, 4 Replaced
What kind of vehicle did it replace?	Ford Aerostar Minivans
What is the vehicle used for?	Miscellaneous administrative needs and transportation around the base.

Comments: Installed solar panel array. Kw/hour is just the same as putting in gas. Had one vehicle in the shop for about 5 months plus replacing all the coolant pumps in all the vehicles put each of the vehicles out of commission for another month. At a minimum, the vehicles leased have been in the shop for about a year (not counting the two-week stays). It is not right to have to pay a monthly lease and not be able to use the vehicles because of maintenance problems.

Agency: Department of Defense (DOD) Navy	**Location:** Port Hueneme, California
Vehicle Model: EPIC	**# Leased:** 5
Total EV Miles: 18,781	**Average Annual Miles per Vehicle:** (see below)
Incremental Funding Provided by DOE: $18,630	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	July of 1999
How many miles have been accumulated?	# Miles Ave. Annual Miles 1 – 671 474 2 – 3570 2520 3 – 4325 3053 4 – 4772 3368 5 – 5443 3842
Have you had any problems with the vehicle?	Sporadic speedometer on all 5, and all five wouldn't run on a full charge.
Have you had any problems with the infrastructure/charge connector?	One wouldn't charge
Did the EV replace another vehicle or was it an addition to the fleet?	Replaced
What kind of vehicle did it replace?	Compressed Natural Gas Vehicles
What is the vehicle used for?	Base use
Comments: Worthless, not dependable – Don't want them. When they are getting fixed, they are in the shop for 6+ months.	

Agency: DOE – Bonneville Power Administration (BPA)	**Location:** Vancouver, Washington
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 1,130	**Average Annual Miles per Vehicle:** 1,130
Incremental Funding Provided by DOE: $4,644	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	Approximately a year
How many miles have been accumulated?	1,130
Have you had any problems with the vehicle?	Had an electrical problem. Since it's been fixed, no other problems.
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Running around Vancouver, Washington complex.

Comments: The Ranger is used by 20 to 30 people. The only problem is when you drive it 30 miles and charge it, the Ranger only has an additional range of 30 miles. The battery pack has to be fully drained before charging to get the full charge and the full range of 40+ miles.

Agency: DOE, HQ, Office of Administrative Management	**Location:** Washington, D.C.
Vehicle Model: Ranger	**# Leased:** 2
Total EV Miles: 3,400	**Average Annual Miles per Vehicle:** 2,400 and 2,600
Incremental Funding Provided by DOE: $28,543	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	May of 2000
How many miles have been accumulated?	1,800 and 1,600
Have you had any problems with the vehicle?	No
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	1 – Germantown HQ, used by Facility Engineers for picking up supplies and traveling in local area. 1 – D.C., used by Couriers for local trips in town twice a day.
Comments: Would be nice if the vehicles had longer range, but we will use them.	

Agency: DOE, Fermi Labs	**Location:** Illinois
Vehicle Model: Ranger	**# Leased:** 3
Total EV Miles: 1,800	**Average Annual Miles per Vehicle:** 1,800
Incremental Funding Provided by DOE: $14,040	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	September of 2000
How many miles have been accumulated?	Approximately 600 on each
Have you had any problems with the vehicle?	Water pump problem and charging system light came on. Both problems have been fixed and we haven't had any problems since.
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Maintenance on the grounds
Comments: They are working out well, quite happy.	

Agency: DOE - Lawrence Berkeley National Lab (LBNL)	**Location:** California
Vehicle Model: Ranger, EPIC	**# Leased:** 20 Rangers, 2 EPICs
Total EV Miles: 41,201	**Average Annual Miles per Vehicle:** (see below)
Incremental Funding Provided by DOE: $180,504	

Have all of the vehicles been received?	Yes					
How long have you had the vehicles?	Received Rangers January of 2000 and EPICs July of 2000					
How many miles have been accumulated?	#	Miles	Ave. Annual Miles	#	Miles	Ave. Annual Miles
	1	828	828	12	1592	1592
	2	1267	1267	13	1174	1174
	3	1614	1614	14	3063	3063
	4	1084	1084	15	3645	3645
	5	1708	1708	16	2364	2364
	6	1376	1376	17	2989	2989
	7	1086	1086	18	6340	6340
	8	829	829	19	1183	1183
	9	1065	1065	20	693	693
	10	2183	2183	*21	3113	7471
	11	646	646	*22	1359	3262
				*NOTE: 21 and 22 are the EPICs.		
Have you had any problems with the vehicle?	All 20 Ford Rangers had wiring harnesses replaced.					
Have you had any problems with the infrastructure/charge connector?	No					
Did the EV replace another vehicle or was it an addition to the fleet?	Replaced					
What kind of vehicle did it replace?	20 Chevy S-10 and 2 minivans					
What is the vehicle used for?	Rangers are used to transport crafts and equipment and EPICs are used to transport personnel.					
Comments: Wish to get more. Perfect for the site, not a lot of mileage. Rangers get between 50 – 60 miles and EPICs around 75 miles on one charge.						

Agency: DOE - Los Alamos National Lab (LANL)	**Location:** New Mexico
Vehicle Model: Ranger	**# Leased:** 19
Total EV Miles: 3,600	**Average Annual Miles per Vehicle:** 1,200
Incremental Funding Provided by DOE: $83,592	

Have all of the vehicles been received?	Yes					
How long have you had the vehicles?	18 – November, 2000 1 – February 26, 2001					
How many miles have been accumulated?	#	Miles	Ave. Annual Miles	#	Miles	Ave. Annual Miles
	1	1157	3336	11	1217	3808
	2	1219	3884	12	1605	4386
	3	2152	4963	13	1567	1140
	4	1362	2938	14	1422	2844
	5	1892	3797	15	2129	4258
	6	2106	4575	16	1526	3052
	7	727	1440	17	1805	3610
	8	597	1131	18	1702	3404
	9	997	1410	19	1039	3117
	10	1199	2682			
Have you had any problems with the vehicle?	2 shorts in the ABS brake system, 1 power steering pump					
Have you had any problems with the infrastructure/charge connector?	No					
Did the EV replace another vehicle or was it an addition to the fleet?	Replaced					
What kind of vehicle did it replace?	Minivans and Sedans					
What is the vehicle used for?	Administrative tasks					
Comments: Trained 150+ people to drive the Rangers. Giving employees 3-month opportunity for a like/dislike opinion. Mountainous area, mileage not as good because of inclines.						

Agency: DOE - National Renewable Energy Laboratory (NREL)	**Location:** Golden, Colorado
Vehicle Model: Ranger	**# Leased:** 2
Total EV Miles: 1,406	**Average Annual Miles per Vehicle:** 1,374; 735
Incremental Funding Provided by DOE: $9,360	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	November 1, 2000
How many miles have been accumulated?	1 – 490 2 – 916
Have you had any problems with the vehicle?	No
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Replaced
What kind of vehicle did it replace?	'93 Dodge and '93 Chevy utility truck
What is the vehicle used for?	Maintenance, travel from site to site, pick up supplies.
Comments: Trucks only get 30 miles to a charge when it is real cold, no complaints. Vehicles only getting 30 miles out of a charge, thought they would get more.	

Agency: DOE - Sandia	**Location:** New Mexico
Vehicle Model: Ranger	**# Leased:** 10
Total EV Miles: 1,000	**Average Annual Miles per Vehicle:** 200
Incremental Funding Provided by DOE: $46,440	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	June of 2000
How many miles have been accumulated?	Approximately 100 miles on each
Have you had any problems with the vehicle?	Bolt problems and battery updates.
Have you had any problems with the infrastructure/charge connector?	Some issues with charging stations, but worked them all out.
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Used by our customers to perform SNL programmatic business.

Comments: Very good performers, no lack of power. Everyone loves the initial acceleration. Rangers initially used in loaner fleet. Early 2001, they were switched to permanent assignments with the hope of increasing usage.

Agency: DOE - Western Area Power Administration (WAPA)	**Location:** Golden, Colorado
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 2,972	**Average Annual Miles per Vehicle:** 3,963
Incremental Funding Provided by DOE: $4,680	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	End of November, 2000
How many miles have been accumulated?	2,972
Have you had any problems with the vehicle?	Snow tires throw the Ranger off, upsets the balance of the batteries.
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Replaced
What kind of vehicle did it replace?	1994 Chevrolet pick-up
What is the vehicle used for?	Making deliveries and pickups at other sites.

Comments: So far so good. Our mailroom personnel seem to like the Ranger. We're having snow tires installed on the vehicle to give it better traction in the snow. We were surprised that this was necessary. We were also worried about cold weather, but we've experienced no problems. Very happy.

Agency: Department of Interior (DOI) – Bureau of Reclamation (BOR)	**Location:** Loveland, Colorado
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 1,500	**Average Annual Miles per Vehicle:** 1,800
Incremental Funding Provided by DOE: $2,322	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	June of 2000
How many miles have been accumulated?	1,500
Have you had any problems with the vehicle?	No
Have you had any problems with the infrastructure/charge connector?	The first charger would drain the batteries and not recharge. Replaced charger.
Did the EV replace another vehicle or was it an addition to the fleet?	Yes
What kind of vehicle did it replace?	1956 Jeep with a 1946 diesel motor
What is the vehicle used for?	Tunnel work around town.
Comments: Longer life batteries would help.	

Agency: Department of Interior (DOI) - Gettysburg National Park	**Location:** Gettysburg, Pennsylvania
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 5,000	**Average Annual Miles per Vehicle:** 1,667
Incremental Funding Provided by DOE: $2,322	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	Starting 3rd year of use
How many miles have been accumulated?	5,000
Have you had any problems with the vehicle?	"*Work Required"* light came on. Ford fixed the problem, but not really sure of what the problem was.
Have you had any problems with the infrastructure/charge connector?	A couple of months ago, Ford had to replace the connector end that plugs into the car.
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Used in the park to monitor work.
Comments: Very happy because of the nature of how it is used. Only problem, limitation of range.	

Agency: Department of Interior (DOI) – Grand Canyon National Park	**Location:** Grand Canyon, Arizona
Vehicle Model: Ranger	**# Leased:** 3
Total EV Miles: 4,459	**Average Annual Miles per Vehicle:** 1,768; 2,744; 4,406
Incremental Funding Provided by DOE: $6,966	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	January 30, 2001
How many miles have been accumulated?	1 - 884 2 - 1,372 3 - 2,203
Have you had any problems with the vehicle?	power steering on one, heater quit working on another due to a short in the system
Have you had any problems with the infrastructure/charge connector?	All three have been replaced
Did the EV replace another vehicle or was it an addition to the fleet?	yes
What kind of vehicle did it replace?	gas vehicles
What is the vehicle used for?	Custodial crew, fee management uses to collect money from visitors, park rangers use to travel around park giving presentations.
Comments: The vehicles have just been received. Training was completed on February 6, 2001. The vehicles have not been used yet. Extremely pleased.	

Agency: Department of Interior (DOI) Jimmy Carter National Historic Site	**Location:** Andersonville, Georgia
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 547	**Average Annual Miles per Vehicle: 1,094**
Incremental Funding Provided by DOE: $2,385	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	2/1/01
How many miles have been accumulated?	547
Have you had any problems with the vehicle?	No
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Running errands within the park.
Comments: Thoroughly enjoy it.	

Agency: Department of Interior (DOI) Kennesaw Mountain National Battlefield Park	**Location:** Kennesaw, Georgia
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 1,300	**Average Annual Miles per Vehicle:** 2,600
Incremental Funding Provided by DOE: $2,385	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	first week of February, 2001
How many miles have been accumulated?	1,300 miles, 35 – 40 miles a day, 7 days a week
Have you had any problems with the vehicle?	No
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Transportation around the park.
Comments: The Ranger is fine and great, just wish it had more range.	

Agency: Department of Interior (DOI), National Park Service -, Rock Creek Park	**Location:** Washington D.C.
Vehicle Model: Rangers	**# Leased:** 5
Total EV Miles: 14,500	**Average Annual Miles per Vehicle:** 1- 3,667, 3 - 6,000, 1 N/A
Incremental Funding Provided by DOE: $11,673	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	1 – 1½ years, 3 – 6 months
How many miles have been accumulated?	1 - 5,500 approximately 2 - 3,000 approximately 3 - 3,000 approximately 4 - 3,000 approximately 5 - 0 brand new vehicle
Have you had any problems with the vehicle?	Air conditioning went out in one of the vehicles.
Have you had any problems with the infrastructure/charge connector?	One Infrastructure had a bad plug, two had problems with the talking chargers, and two have had motherboards replaced. Have not yet received charge connector for fifth vehicle.
Did the EV replace another vehicle or was it an addition to the fleet?	All 5 replacements
What kind of vehicle did it replace?	2 Rangers, 1 full size Ford pickup, 1 Chrysler car, 1 mid-sized Chevy sedan
What is the vehicle used for?	Supervisors use one for doing inspections in the field, one is used as the mail vehicle, the Nature Center uses one to run errands, and one is used by the contract administrator to check on contractors working in the Park.
Comments: Could use more electric vehicles. Very happy. Had Ford install back-up beepers. Concern: When you are slowing down and hit a bump, it feels like the engine stops breaking. The new Rangers are better equipped than the older models.	

Agency: Department of Interior (DOI), US Fish and Wildlife Service - Paxtuent Research Refuge	**Location:** Maryland
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 3,500	**Average Annual Miles per Vehicle:** 4,667
Incremental Funding Provided by DOE: $2,322	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	4/1/00
How many miles have been accumulated?	3,500
Have you had any problems with the vehicle?	Power steering pump, and batteries wouldn't charge. Both problems are fixed and we haven't had any problems since.
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Added
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Driving around Refuge, 10 to 15 miles a day.
Comments: Very happy. Ideal for situation. Used by 5 different people.	

Agency: Department of Interior (DOI) US Fish and Wildlife Service (USFWS) National Conservation Training Center	**Location:** Shepherdstown, West Virginia
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 732	**Average Annual Miles per Vehicle:** 2,928
Incremental Funding Provided by DOE: $2,375	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	Received Feb 23, 2001
How many miles have been accumulated?	732
Have you had any problems with the vehicle?	The back window was broke out when delivered.
Have you had any problems with the infrastructure/charge connector?	no problems
Did the EV replace another vehicle or was it an addition to the fleet?	Replace
What kind of vehicle did it replace?	Gas powered Ford F150
What is the vehicle used for?	Maintenance group uses for transportation between buildings.

Comments: Wasn't very happy about charger not included with the electric Ford Ranger. Truck still hasn't been picked up to have the back window replaced. Pretty happy, thinking about getting some more.

Agency: Department of Transportation (DOT) – Headquarters (HQ)	**Location:** Washington, D.C.
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 837	**Average Annual Miles per Vehicle:** 1,256
Incremental Funding Provided by DOE: $2,322	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	7-8 months
How many miles have been accumulated?	837
Have you had any problems with the vehicle?	No
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Added
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Picking up stuff around the metropolitan area.
Comments: The Ranger is used by 5 to 6 different people. Very nice ride. Somewhat happy.	

Agency: Environmental Protection Agency (EPA) – Headquarters (HQ)	**Location:** Washington, D.C.
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 1,712	**Average Annual Miles per Vehicle:** 2,054
Incremental Funding Provided by DOE: $2,322	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	Had loaner from 4/99 to 4/00, Received leased vehicle 4/00
How many miles have been accumulated?	1,712
Have you had any problems with the vehicle?	No
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Used for small distance deliveries and picking up mail.

Comments: Ranger replaced because of charging problem. Great impact on civilian and government population. Very happy.

Agency: Environmental Protection Agency (EPA)	**Location:** Kansas City, Kansas
Vehicle Model: Ranger	**# Leased:** 2
Total EV Miles: N/A	**Average Annual Miles per Vehicle:** N/A
Incremental Funding Provided by DOE: $4,644	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	Received first week of February, 2001
How many miles have been accumulated?	2,708 350
Have you had any problems with the vehicle?	gear shift, check engine light, reprogrammed battery control module
Have you had any problems with the infrastructure/charge connector?	no problems
Did the EV replace another vehicle or was it an addition to the fleet?	addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	mail route, show, administrative use

Comments: One Ranger is located in Kansas City and the other is located in Jefferson City. Reliable, runs great. It's great for what we use it for.

Agency: General Services Administration (GSA), Public Building Service	**Location:** Washington, D.C.
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 1,309	**Average Annual Miles per Vehicle:** 873
Incremental Funding Provided by DOE: $2,322	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	1 ½ years
How many miles have been accumulated?	1,309
Have you had any problems with the vehicle?	No
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Transporting personnel
Comments: Decent vehicle, rides rough, range decreases in winter, acceleration adequate. Not real good finesse.	

Agency: General Services Administration (GSA)	**Location:** Crystal City, Virginia
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 2,500	**Average Annual Miles per Vehicle:** 2,500
Incremental Funding Provided by DOE: $4,140	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	1 year
How many miles have been accumulated?	2,500
Have you had any problems with the vehicle?	Engine code light came on 2 different times.
Have you had any problems with the infrastructure/charge connector?	Replaced 6 months ago
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Passenger carry missions
Comments: Good truck, practicable, durable.	

Agency: General Services Administration (GSA) – Region 7	**Location:** Fort Worth, Texas
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: N/A	**Average Annual Miles per Vehicle:** N/A
Incremental Funding Provided by DOE: $2,322	

Have all of the vehicles been received?	No
How long have you had the vehicles?	N/A
How many miles have been accumulated?	N/A
Have you had any problems with the vehicle?	N/A
Have you had any problems with the infrastructure/charge connector?	N/A
Did the EV replace another vehicle or was it an addition to the fleet?	N/A
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	N/A

Comments: Received a call right before Christmas. Went to pick up Ranger. Made it 15 miles before battery was drained. Ford picked up Ranger, haven't seen it since. Ford could not come up with the part to fix the Ranger. GSA decided to have the lease terminated. They will not be getting an electric vehicle, nor do they want to at this time because of the headache they just went through.

Agency: Presidio Trust	**Location:** San Francisco, California
Vehicle Model: Ranger	**# Leased:** 15
Total EV Miles: 45,000	**Average Annual Miles per Vehicle:** 1,500
Incremental Funding Provided by DOE: $62,100	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	2 years
How many miles have been accumulated?	Approx. 3,000 on each
Have you had any problems with the vehicle?	Power steering and one wouldn't hold a charge
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Take care of phone lines, hauling equipment
Comments: Great vehicles, very powerful. Looking at ordering another 15.	

Agency: Smithsonian Institute	**Location:** Washington, D.C.
Vehicle Model: Ranger	**# Leased:** 1
Total EV Miles: 5,169	**Average Annual Miles per Vehicle:** 2,500
Incremental Funding Provided by DOE: $2,322	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	Over two years
How many miles have been accumulated?	5,169
Have you had any problems with the vehicle?	One sensor needed to be reset.
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Running errands

Comments: Used by 12 people. The vehicle is great for what we do. It has limitations because of distance. It rides rough. We really like it. It is great.

Agency: Tennessee Valley Authority (TVA)	**Location:** Tennessee
Vehicle Model: Ranger	**# Leased:** 5
Total EV Miles: 4,401	**Average Annual Miles per Vehicle:** 357, 437, 765, 974, 989
Incremental Funding Provided by DOE: $11,610	

Have all of the vehicles been received?	Yes
How long have you had the vehicles?	September of 1999
How many miles have been accumulated?	1 – 446 2 – 546 3 – 956 4 – 1217 5 – 1236
Have you had any problems with the vehicle?	Two Rangers wouldn't hold a charge and had to have their battery packs replaced. One had a problem with the transaxle.
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Addition
What kind of vehicle did it replace?	N/A
What is the vehicle used for?	Advertising electric vehicles, short trips, Facilities use it to carry cleaning supplies from office to office.
Comments: Very happy with the vehicles. Will be looking at Hybrids when the lease is up.	

Agency: United States Postal Service (USPS)	**Location:** Long Beach/ Huntington Beach, California
Vehicle Model: EPIC	**# Leased:** 16
Total EV Miles: 38,337	**Average Annual Miles per Vehicle:** (see below)
Incremental Funding Provided by DOE: $59,616	

Have all of the vehicles been received?	Yes						
How long have you had the vehicles?	8/25/99 *November of 1999, received a "spare" not part of original contract.						
How many miles have been accumulated?	#	Miles	Ave. Annual Miles	#	Miles	Ave. Annual Miles	
	1	1865	1399	9	3064	2298	
	2	3026	2270	10	3516	2637	
	3	2801	2101	11	2533	1900	
	4	2949	2212	*12	3641	2731	
	5	2930	2198	13	4064	3048	
	6	2348	1761	14	3732	2559	
	7	2930	2198	15	2669	1830	
	8	2670	2003	16	2494	1710	
				17	13372	9169	
Have you had any problems with the vehicle?	In Long Beach - Seven EPICs have had coolant pump problems, two have had battery problems.						
Have you had any problems with the infrastructure/charge connector?	In Huntington Beach – two infrastructures are not charging.						
Did the EV replace another vehicle or was it an addition to the fleet?	Replaced						
What kind of vehicle did it replace?	Long life vehicles – Grumman on a Chevy S-10 chassis with a 4 cylinder GM motor.						
What is the vehicle used for?	Mail delivery						
Comments: As of 1/2/01, all EPICs were running in Harbor City. Wonderful.							

Agency: US Postal Service (USPS)	**Location:** San Diego, California
Vehicle Model: EPIC	**# Leased:** 45
Total EV Miles: Approximately 98,858	**Average Annual Miles per Vehicle:** 3,818
Incremental Funding Provided by DOE: $167,670	

Have all of the vehicles been received?	45
How long have you had the vehicles?	24 – December, 4 – February, 3 – March, 4 - June
How many miles have been accumulated?	45vehicles average 318 miles/month. They get approximately 10 – 12 miles a day.
Have you had any problems with the vehicle?	Air conditioning in a couple. 24 to be returned to have modification to the coolant fluid pump for the battery.
Have you had any problems with the infrastructure/charge connector?	No
Did the EV replace another vehicle or was it an addition to the fleet?	Replaced
What kind of vehicle did it replace?	LLV Grummans and Windstars
What is the vehicle used for?	Park and loop mail delivery
Comments: Good as can be expected.	

Agency: United States Air Force Base (USAF), Vandenburg Air Force Base (DOD)	**Location:** California
Vehicle Model: Ranger	**# Leased:** 22
Total EV Miles: 19,526	**Average Annual Miles per Vehicle:** (see below)
Incremental Funding Provided by DOE: $91,080	

Have all of the vehicles been received?	Yes					
How long have you had the vehicles?	20 – 6 months 2 – 1 ½ years					
How many miles have been accumulated?	#	Miles	Ave. Annual Miles	#	Miles	Ave. Annual Miles
	1	2535	2028	12	616	1232
	2	2009	1607	13	1180	2360
	3	1321	5284	14	1938	3876
	4	1253	5012	15	911	1822
	5	170	680	16	896	1792
	6	66	264	17	1094	2188
	7	646	2584	18	633	1266
	8	502	2008	19	96	461
	9	514	1028	20	38	182
	10	1194	2388	21	894	4291
	11	712	1424	22	308	1478
Have you had any problems with the vehicle?	One bad steering pump, power limit gauge light came on another one.					
Have you had any problems with the infrastructure/charge connector?	One cable strain, two motherboards replaced, one ground fault error, and one blew a fuse on the power supply.					
Did the EV replace another vehicle or was it an addition to the fleet?	Replaced					
What kind of vehicle did it replace?	Variety of light duty trucks					
What is the vehicle used for?	Administration and transportation.					
Comments: Very happy with overall performance. Decent range, performance, and reliability. The Ford Company was very helpful with everything.						