U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

FEDERAL ENERGY MANAGEMENT PROGRAM

Federal Fleet Success Stories

Electric Avenue

U.S. Army Charges Ahead in Using Electric Vehicles

In what's been hailed as the largest acquisition of electric vehicles in the U.S., the Army is leading the way in reducing petroleum consumption and greenhouse gas emissions with its lease of 4,000 Neighborhood Electric Vehicles (NEVs).

Army Plugs into New NEVs

The U.S. Army has taken a bold step. Earlier this year, in order to reduce its petroleum consumption while increasing alternative and renewable fuels sources, the U.S. Army announced that they would be leasing and deploying a total of 4,000 NEVs by 2011. The NEVs leased by the U.S. Army are electric-powered Low-Speed Vehicles (LSVs), which are 4-wheeled motor vehicles weighing less than 3,000 pounds with top speeds of 20 to 25 miles per hour. Electric-powered NEVs are also referred to as Low-Speed Electric Vehicles (LSEVs).

The NEVs will be used for passenger transport, security patrols, and maintenance and delivery. NEVs have the potential to significantly reduce an agency's petroleum consumption where fleet vehicles are used primarily to support campus-type operations, have low daily vehicle miles traveled (VMT), and have daily (or overnight) access to

NEVs are being driven on post for non-tactical activities such as security and maintenance work, and to carry light equipment.

SAVING GREEN BY GOING ELECTRIC

Each NEV will save an estimated $13,000 versus a hybrid sedan and cost an estimated $740 less per year to power than traditional gasoline fueled vehicles.

MORE FIGHT, LESS FUEL

The Army's NEV strategy will:

- reduce petroleum consumption
- promote alternative fuel use
- minimize environmental impacts
- create a culture of energy awareness

electricity for recharging. They will replace some of the 28,000 non-tactical sedans and light duty trucks within the Army's fleet.

Driving the Conversion

The Army has projected significant cost savings as well as petroleum and greenhouse gas emission reductions through the use of these NEVs.

Cost Savings

The initial contract for 4,000 leased NEVs will cost much less than the gasoline-powered vehicles they replace -- $3,300 less than a gasoline powered sedan, and $13,000 less than a hybrid sedan. In addition, each NEV will cost an estimated $740 less annually to power than gasoline-fueled vehicles.

The Army accepted its first six NEVs at Virginia's Fort Myer (pictured above). The Army plans to lease 800 in FY 2009 and 1,600 more in both FY 2010 and FY 2011 for a total of 4,000.

The installation of electric vehicle charging stations at the various Army bases will require a one-time cost of roughly $800,000. However, this cost will more than be recouped in total savings during the first year.

"[The cost] will be offset multiple times by the reduction in consumption of 11.5 million gallons of gasoline over the six-year life of these vehicles," Secretary of the Army Pete Geren said.

Petroleum Reduction

The acquisition of 4,000 NEVs will greatly assist the Army in meeting its Executive Order (E.O.) 13423 petroleum reduction requirements. The Army estimates the NEVs will account for 42 percent of the FY 2015 goal of a 20 percent reduction in annual petroleum consumption.

Environmental Savings

Replacing gasoline vehicles with NEVs will have positive environmental impacts as well, significantly reducing the Army's greenhouse gas emissions. The Army estimates that over the next six years, its CO_2 emissions will be reduced by approximately 218 million pounds.

NEV Performance

Designed for campus use, NEVs are street legal in all 50 states. They have top speeds of 20-25 mph, but they cannot operate on a highway with posted speeds of more than 35 mph. After charging the vehicles overnight for approximately eight hours, the NEVs are ready for use again, and they can travel up to 30 miles on a single charge.

The Army is also keeping a close eye on the development of electric vehicles as alternatives to larger utility and maintenance vehicles. For example, Ford has an agreement with Smith Electric Vehicles in England for full-size electric step vans. These vehicles are larger than NEVs, and can go farther on a single charge. Smith is slated to begin production of electric vans in the United States in 2010; these vehicles will be placed on the GSA schedule.

Charging Toward the Future

The Army's success in this three-year initiative will clearly demonstrate that NEVs offer a viable alternative to using gasoline fueled vehicles, especially in campus settings, and may propel other Federal fleets to adopt similar measures.

Agency fleet managers can also learn from the Army in transcending possible objections from the field. "We developed an education plan to explain to the field the incredible environmental and cost savings that would be gained. This helped to overcome most of the objections," said Ed Moscatelli, U.S. Army LSEV Program Manager.

NEVs at a Glance

- Bed capacity of 1,000 lbs.
- Street-rated 12-inch tires
- Turning radius of 16 ft.
- Top speed of 20 - 25 mph
- Fully charged in 8 hours
- Estimated 30 miles per charge

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