

any replacement fuel goal and therefore is not "necessary" under the section 507(e) standard.

#### Analysis of Potential Replacement Fuel Use

The limitations on the potential contributions of a private and local government fleet program identified above are supported by analyses conducted for and by DOE. In both *Technical Report 14* and the *Section 506 Report*, estimates of the potential replacement fuel use from a private and local government fleet program were very similar. *Technical Report 14* estimated total fuel use from all EPA fleet programs to be approximately 1.2 percent of U.S. gasoline use (p. 63, Table III-21). The *Section 506 Report* was only slightly more optimistic, indicating that "[a]lternative fuel use by EPA fleet programs, even with the contingent mandates for private and local government fleets, is unlikely to provide more than about 1.5 percent replacement fuel use \* \* \*" *Section 506 Report* at p. 35. In either case, subtracting out the portion of replacement fuel use represented by the existing (Federal, State, and alternative fuel provider) fleet programs, would leave the potential private and local government fleet program contribution at closer to 1 percent. It should be noted that both reports chose to include calculations based only upon the percentage of light-duty fuel use, represented as solely gasoline at the time of these reports. Therefore, replacement fuel use from the private and local government fleet program when viewed as a percentage of all on-highway motor fuel use would be on the order of 0.7 to 0.8 percent.

Both the analyses in *Technical Report 14* and the *Section 506 Report* were conducted before DOE had much experience with implementation and operation of the EPA fleet programs. This experience has shown that the number of fleets originally envisioned to be covered was far larger than actually occurred.

Estimates prepared by Oak Ridge National Laboratory indicated that approximately 380,000 AFVs would be acquired annually pursuant to the various AFV acquisition mandates in EPA, if a private and local government fleet program were promulgated and once all EPA programs reached their maximum mandated percentage requirements. (See *TAFV Model Report*, p. 25, and Technical Documentation of the Transitional Alternative Fuels and Vehicles TAFV Model, Model Version 1.0, ONRL, July 1997, table 10, pp. 32-33 (hereafter, *TAFV Documentation*)).

More specifically, fleets covered by the current Federal Government, State Government, and Alternative Fuel Provider fleet programs were projected to require approximately 60,000 AFVs each year, while private and local government fleets were projected to require approximately 320,000 vehicles each year. Based upon replacement rates of 3 years for private fleet cars, 4.5 years for private fleet light trucks, and 6.75 years for all local government light-duty vehicles, this equates to a total covered fleet vehicle population of approximately 1.87 million light-duty fleet vehicles at the maximum AFV acquisition requirement of 70 percent.

The TAFV model, however, has proven to be incorrect for fleets currently subject to EPA AFV acquisition requirements. That model estimated that the current EPA fleet programs would result in approximately 60,000 AFV acquisitions annually, but DOE's experience with those programs shows that the covered fleets are acquiring closer to 20,000 to 25,000 AFVs per year. (See Federal Fleet and State and Fuel Provider programs at <http://www.ott.doe.gov/epact>.) Based on this experience, which DOE believes would likely be replicated with respect to private and local government fleets, the TAFV estimate of AFV acquisitions that would result from a private and local government fleet mandate probably is 2 to 2 1/2 times the actual level of AFV acquisitions that would result. Thus, annual AFV acquisitions resulting from a potential private and local government fleet AFV acquisition mandate probably would be in the neighborhood of 130,000 to 160,000, with total covered light-duty fleet vehicles of approximately 750,000. Similarly, DOE's experience has also been that fleets not required to use alternative fuel often tend to acquire FFVs or bi-fuel vehicles, and operate them on gasoline. There is no reason to believe the results would be any different with private and local government fleets.

A more recent analysis, *The Alternative Fuel Transition: Results from the TAFV Model of Alternative Fuel Use in Light-Duty Vehicles 1996-2000* (ORNL TM2000/168) (September 17, 2000) [hereinafter *TAFV Model Report*], [http://pz11.ed.ornl.gov/tafv99report31a\\_ornltn.pdf](http://pz11.ed.ornl.gov/tafv99report31a_ornltn.pdf), appears to incorporate more realistic assumptions regarding these fleet programs. The *TAFV Model Report* states that, "In particular, over all of the price scenarios, we find that the [private and local government fleet] rule increases the alternative fuel penetration in 2010 from 0.12% (without the private and

local government rule) to, at most, 0.37% [with a private and local government rule] of total fuel sales." *TAFV Model Report* at p. 28. Thus, this analysis placed contributions from the private and local government fleet rule at 0.25 percent. Again, as with *Technical Report 14* and the *Section 506 Report*, the percentages were based only upon fuel use by light-duty vehicles. Therefore, the contribution from a potential rule drops below 0.2 percent when compared against all on-highway motor fuel use.

Thus, a potential private and local fleet program under authority provided to DOE by EPA would be expected to contribute, at best, an extremely small amount toward achievement of replacement fuel goals. Even without the statutory limitations in EPA described above, such a contribution would still be very small.

#### Infrastructure and Fuel Availability

During the ANOPR and public workshops, a number of commenters expressed their concern that alternative fuel infrastructure was not adequate to support a private and local government fleet rule. Since that time, it is DOE's view that fuel provider investments in alternative fuel infrastructure have in fact slowed down. In the early 1990's, shortly after EPA's passage, a significant number of natural gas and electric utilities entered the transportation fuels market, hoping to market alternative fuels to fleets subject to the Clean Air Act and EPA. The number of alternative fuel stations, natural gas stations in particular, grew from little more than a handful to several thousand. The total number of alternative fuel stations, however, appears to have stalled or slightly declined in the past few years. See Department of Energy, Alternative Fuel Data Center, *Refueling Stations* ([http://www.afdc.doe.gov/refuel/state\\_tot.shtml](http://www.afdc.doe.gov/refuel/state_tot.shtml)) (Dec. 2002) [hereinafter *AFDC Refueling Stations*].

Restructuring in the utility industry and the lack of demand for alternative fuels have played a part in the reduced role of utilities in the development of these facilities. Under existing fleet mandates and voluntary programs, electric utilities have expressed their discouragement at the lack of EVs on the road. A private and local government fleet rule probably would not appreciably affect that calculus given the small percentage of vehicles covered fleets would seek to operate on those fuels. Therefore, it is DOE's view that, if it were to adopt an AFV acquisition requirement for private and local government fleets, there is no assurance