

structure to support them through efforts like the President's proposed research initiative to aid in developing clean, hydrogen-powered automobiles, targeted research dollars and consumer tax incentives. Consistent with the recommendations of the NAS report, we intend to study programmatic CAFE alternatives and to implement those reforms within our statutory authority to allow for greater improvements in fuel economy safely in the years beyond those addressed in this final rule.

### III. Summary of the NPRM

NHTSA proposed light truck CAFE standards for MYs 2005–2007 in an NPRM published on December 16, 2002 (66 FR 77015). This proposal sought to set a standard for light trucks at 21.0 mpg for MY 2005, 21.6 mpg for MY 2006 and 22.2 mpg for MY 2007. These proposed standards represented NHTSA's tentative view of the maximum feasible fuel economy levels that could be achieved by light truck manufacturers in each of these model years.

The agency's proposal relied heavily on the NAS fuel economy report, confidential product plans submitted by some manufacturers, data maintained by NHTSA for other manufacturers, and responses to the agency's February 2002 RFC. NHTSA analyzed the information from these sources to develop an understanding of the availability, effectiveness and costs of technologies and other means to increase light truck fuel economy. The agency then proceeded to process these data, using two methodologies. One methodology, which has been labeled as the "Stage" analysis, primarily involved application of the agency's engineering judgment and expertise about possible adjustments to the detailed product plans submitted in response to the RFC by DaimlerChrysler, General Motors, and Ford. The Stage analysis was limited to these manufacturers because they were the only ones that provided the agency with detailed product plans for MYs 2005–2007. The other methodology, used by the Department's Volpe National Transportation Systems Center (Volpe Center) and labeled as the "Volpe" analysis, relied on the aforementioned product plans as well as data relating to manufacturers that had not submitted detailed information in response to the RFC.

The Stage and the Volpe analyses were both intended to provide reliable estimates of manufacturer capabilities. Stage I of the Stage analysis took existing product plans and applied technologies that manufacturers indicated would be available by MY

2005. Stage II applied more advanced transmission upgrades and engine improvements to planned model and engine changeovers.

The Volpe analysis considered product plans, but also used a technology application algorithm developed by Volpe Center staff. This algorithm systematically applied consistent cost and performance assumptions to the entire industry, as well as consistent assumptions regarding economic decision-making by manufacturers. Technologies were applied in order of cost-effectiveness. Use of this methodology led to projections that low-friction lubricants, engine accessory improvements, reductions in engine friction and rolling and aerodynamic resistance, cylinder deactivation, and transmission upgrades (5-speed, 6-speed, and automatically shifted manual transmissions) would account for most of the response to the proposed CAFE standards.

The NPRM explained that the Stage analysis provided the initial basis for the proposed CAFE standards, while the Volpe Center's technology application algorithm was used to estimate the overall economic impact of the proposal. The Volpe analysis covered the entire industry and assessed the economic impact of the proposal as measured in terms of increases in new vehicle prices on a manufacturer-wide, industry-wide, and average per-vehicle basis. Based on these estimates and corresponding estimates of the proposal's net economic and other benefits, the agency tentatively concluded that the proposal would be economically practicable and technologically feasible.

### IV. Summary of Final Rule and Supporting Documents

The agency is adopting the light truck CAFE standards proposed in the NPRM: 21.0 mpg for MY 2005, 21.6 mpg for MY 2006, and 22.2 mpg for MY 2007. In establishing these standards, the agency has carefully considered all the comments submitted to the docket, but in particular those of motor vehicle manufacturers and of groups representing consumer and environmental interests. The agency has determined that these levels are the maximum feasible CAFE levels for light trucks for those model years, balancing the express statutory factors and, in particular, the impact of the standard on motor vehicle safety and American jobs. NHTSA estimates that the fuel economy increases required by the standards for MYs 2005–2007 will generate approximately 3.6 billion gallons of

gasoline savings over the 25-year lifetime of the affected vehicles.

The agency has analyzed potential technological improvements to the product offerings for each manufacturer with a significant share of the light truck market. In response to the public comments, we updated both the Stage and the Volpe analyses, making numerous changes to our engineering and economic calculations and determinations to account for computational errors and other adjustments we found appropriate. The agency's projection of CAFE capability is based on the most recently submitted product plans and involves technological improvements we have determined to be appropriate and feasible within the time frame. We do not believe this final rule will necessitate, nor do we believe it will result in, any "mix shifting," e.g., changing from the planned production of heavier or larger vehicles to lighter or smaller vehicles, which might result in significant employment and/or weight reductions were it to occur.

Indeed, we sought public comment on the possibility or likelihood that manufacturers would comply with these new standards by reducing vehicle weight and, if so, any safety consequences of weight reduction. The manufacturers suggested that weight reduction is a possible compliance option, while falling short of predicting that they would in fact comply by reducing the mass of their vehicles in ways that may affect their overall crashworthiness. We believe that the final rule neither will necessitate nor result in reductions in vehicle weight that will impede the overall safety of the vehicle fleet traveling on the roads of America. Indeed, as the NAS report noted, there are many technological means available to manufacturers for improving fuel economy that are much more cost-effective than weight reduction. Accordingly, we did not rely on weight reduction.

We recognize that the standard established for MY 2007 is a substantial challenge for General Motors, especially in light of the updates to the product plans submitted with its comments on the NPRM. This is the first time since the issuance of MY 1983–1985 light truck standards in December 1980 that the agency has established light truck CAFE standards for more than two model years in the same final rule. We recognize that, between now and the last (MY 2007) of the model years for which standards are being established, there is more time than in previous light truck CAFE rulemakings for significant changes to occur in external factors