February 11, 2002

The Honorable Thomas A. Daschle,
Majority Leader,
United States Senate
Washington, D.C. 20510

The Honorable J. Dennis Hastert
Speaker of the House,
United States House of Representatives
Washington, D.C. 20515

The Honorable Trent Lott
Minority Leader,
United States Senate
Washington, D.C. 20510

The Honorable Richard A. Gephardt
Minority Leader,
United States House of Representatives
Washington, D.C. 20515

Dear Gentlemen:

This letter is in response to the letter of February 1, 2002, from Secretary of Transportation Norman Y. Mineta concerning Corporate Average Fuel Economy (CAFE). In that letter, the Secretary stated that "the current CAFE system has created an incentive for manufacturers to produce smaller and lighter cars, which the majority of the [National Academy of Sciences or NAS] committee believes has led to many additional traffic injuries and fatalities."

The Secretary's relies for this statement on a highly controverted study by the NAS, which, in turn, based its conclusions on research by Charles Kahane of the National Highway Traffic Safety Administration (NHTSA). As noted in the minority opinion's appendix to the NAS report and in my testimony of January 24, 2002, before the Senate Commerce Committee, the Kahane study is plagued by the following flaws:

- The data used in the study is from 1993 and therefore fails to reflect advances in passenger protection, such as dual airbags and head injury protection;
- The study misleadingly held crashworthiness protection constant, despite the fact that many lives could be saved by design changes and cost-effective safety improvements;
- The study assumed a relationship between weight and safety, without isolating the influence of vehicle size or other confounding factors;
- The study assumed that all vehicles in the fleet would be made lighter by an identical amount (100 lbs.), when in fact, historically, the heaviest vehicles got lighter and the lightest vehicles got heavier from 1975 to 1985 in response to initial CAFE legislation and rules, to the benefit of safety;

- The study understated the risks of vehicle incompatibility, a serious problem in a vehicle fleet where 50 percent of new vehicles sold are light truck type vehicles, which inflict by far the most damage of any category of light duty passenger vehicles.

Looking at the historical record, this study does not accurately predict the effects of raising CAFE standards. Eighty-five percent of the improvement in fuel economy following the initial CAFE legislation came from technological upgrades to the fleet, not weight reduction, as the study assumes. Moreover, in the seventeen years since the industry met the current standard of 27.5 miles per gallon, there have been major advances in technology, including advances in lightweight, highly safe materials (please see the attached *PR Newswire* article).

In addition, Kahane's conclusions failed to address which increases in risk could be alleviated by better vehicle design. The largest area of increase in vehicle fatalities cited by Kahane was an increase in the frequency of single vehicle crashes involving rollover. These deaths are largely preventable, as rollovers are a highly survivable type of crash, but the auto industry has failed to implement simple safety upgrades that would save thousands of lives each year.

Kahane also cited an increase in deaths caused by crashes between light trucks and cars, which problem has grown because the fuel economy standard for light trucks is barely higher than when I left my position as NHTSA administrator 21 years ago. Since that time, light truck-type vehicles have proliferated. Stricter congressionally mandated fuel economy standards for these vehicles would result in a vehicle fleet that is more compatible and therefore safer.

Moreover, Kahane's dire predictions have now been superseded by further research. Honda presented their results of an updated version of the Kahane study to the Senate Commerce Committee on January 24, 2002. Using more recent safety data and the Kahane methodology, they found that there was *no likelihood of a net increase in fatalities* if vehicle weight was reduced in today's fleet.

Nonetheless, the real and continuing safety hazards caused by lack of vehicle compatibility and vehicle rollover would be greatly alleviated by vehicle safety solutions. Congress should include provisions for rollover crashworthiness and improved vehicle compatibility in CAFE legislation, and put to rest at last the automotive industry's safety red herring, which has been permitted to obscure the industry's obstinacy regarding any increase, however modest, in vehicle fuel economy.

Public Citizen has a long history of working on behalf of auto safety. We are well aware of the risks of poor vehicle design and the tragedy that can result from a failure to consider the full impact of policy decisions on safety.

Raising fuel economy standards, however, need not threaten safety, and Congress should move forward with confidence to pass fuel economy legislation which meaningfully improves the environment and public health, enhances national security by reducing our dependence on foreign oil, and also advances the interest of highway safety. This is not only possible, it is an imperative.

Sincerely yours,

Joan Claybrook
President, Public Citizen

cc:

The Honorable Ernest F. Hollings
Chairman, Committee on Commerce, Science and Transportation
United States Senate
Washington, D.C. 20510

The Honorable W.J. "Billy" Tauzin
Chairman, Committee on Energy and Commerce
United States House of Representatives
Washington, D.C. 20515

The Honorable John McCain
Ranking Member, Committee on Commerce, Science and Transportation
United States Senate
Washington, D.C. 20510

The Honorable John D. Dingell
Ranking Member, Committee on Energy and Commerce
United States House of Representatives
Washington, D.C. 20515

Other Honorable Members of the Senate Commerce, Science and Transportation Committee:

The Honorable Ted Stevens
The Honorable Conrad Burns
The Honorable Kay Bailey Hutchison
The Honorable Olympia J. Snowe
The Honorable Sam Brownback
The Honorable Gordon Smith
The Honorable Peter G. Fitzgerald
The Honorable John Ensign
The Honorable George Allen

The Honorable Daniel K. Inouye
The Honorable John D. Rockefeller
The Honorable John F. Kerry
The Honorable John B. Breaux
The Honorable Byron L. Dorgan
The Honorable Ron Wyden
The Honorable Max Cleland
The Honorable Barbara Boxer
The Honorable John R. Edwards
The Honorable Jean Carnahan

New Steels Can Help Vehicles Achieve Five-Star Crash Rating, Double Fuel Economy at No Additional Cost Says American Iron And Steel Institute

AISI Reveals Global Study Results Showing the New Steels
Offer Significant Advantages for Auto Makers

DETROIT, Jan. 30
PRNewswire

Greater use by automakers of new grades of Advanced High-Strength Steels (AHSS) will provide an unprecedented, high level of crash safety performance at no cost increase, according to a new study from the global steel industry. At the same time, use of these steels will enable automakers to reduce the environmental impact of their vehicles through a doubling of fuel economy, source reduction, and steel's inherent ease of recycling, study results show.

The study, ULSAB-AVC (Advanced Vehicle Concepts), available today from American Iron and Steel Institute (AISI), comprises conceptual designs for two vehicles, a 2-door hatchback and a 4-door, mid-size sedan, that would meet more stringent future safety standards anticipated for 2004.

Advanced high-strength steels, the most sophisticated steels available for automotive production, are excellent for managing crash energy. As with conventional high-strength steels, AHSS foster weight reduction but exhibit a superior combination of high strength, crash energy management, excellent formability and dent resistance. These newly available, high-tech steel grades offer vehicle designers more freedom in how they address crashworthiness, packaging, styling and mass reduction.

AHSS make up more than 80 percent of the ULSAB-AVC body structures, with other grades of high-strength steel accounting for the remaining 20 percent. Extensive use of these advanced, high-tech grades, coupled with efficient design, results in a significant achievement in part consolidation. The body structures contain just 81 major parts each, which contributes to better structural efficiency and lower costs.

"Through the ULSAB-AVC program, we are continuing our commitment to an aggressive steel strategy to advance breakthrough technologies in steel vehicle design," said John Mayberry, chairman of AISI and president and CEO of Dofasco Inc. "This program is another step in our role as a leader in the materials industry to support steel vehicle design that achieves optimal performance, safety and affordability to meet global demand for the next generation of vehicles."

Computer-simulation tests predict that the designs would receive "Five Stars" in the U.S. NCAP and SINCAP crash safety tests, the highest possible rating in the United States. Additionally, the ULSAB-AVC vehicle designs would receive the top rating for performance against standards of the Insurance Institute for Highway Safety (IIHS).

They would receive a "Five-Star" rating in European New Car Assessment Program (NCAP) tests, as well.

The study indicates that the designs would cost no more to build than comparable vehicles, allowing vehicle makers to incorporate ULSAB-AVC features at competitive consumer prices.

Manufacturing cost estimates range from $9,200 for the 2-door hatchback (European C-Class) with a gasoline engine to $10,200 for the 4-door, mid-size sedan (U.S. PNGV-Class) with a diesel engine. Analysis of selling price data from manufacturers and other readily available sources indicates that ULSAB-AVC concept vehicles would sell at prices well below those of current hybrid-engine concept vehicles, while offering substantial reduction in CO2 emissions, compared to conventional vehicles.

Evaluations of ULSAB-AVC's potential fuel economy ratings for the 4-door, mid-size PNGV-Class vehicle (Partnership for a New Generation of Vehicles) predict that:

* The gasoline engine version would achieve 52 mpg in combined driving cycle (60 mpg highway), and
* The diesel variant would achieve 68 mpg combined driving cycle (78 mpg highway).

The 2-door hatchback (European C-Class), a slightly smaller vehicle that is particularly relevant in Europe, achieved slightly better fuel economy.

In comparison to the weights of PNGV prototypes from General Motors, Ford and DaimlerChrysler, the ULSAB-AVC PNGV-Class design compares very favorably. The PNGV-Class gasoline- and diesel-powered variants weigh approximately 2,200 and 2,273 pounds, respectively. The GM Precept weighs about 2,587 pounds, the Ford Prodigy 2,387 pounds, and the Dodge ESX3 2,250 pounds.

ULSAB-AVC incorporates numerous design advances, including a modular platform approach, a highly efficient body structure with an innovative front- end module, a highly economical powertrain, and effective front and rear suspension systems, all aimed at balancing fuel efficiency, environmental performance and safety while fostering low-cost assembly and ease of servicing.

ULSAB-AVC also features a full spectrum of the latest steel technologies, including tailored blanks, tailored tubes, assembly laser welding, and tube and sheet hydroforming.

"Steel's combination of excellent crash energy management characteristics, low cost and weight-saving capability, continues to offer vehicle makers opportunities to advance the state of the art of vehicle design. At the same time, this combination will keep high-volume, mainstream vehicles within financial reach of ordinary consumers," said Ron Krupitzer, senior director, Automotive Applications, AISI.

The new AHSS grades gain their high-performance properties in strength and formability by incorporating multi-phase microstructures, which contain martensite, bainite and/or retained austenite in quantities sufficient to produce unique combinations of attributes. Specific microstructures result from precise control of the chemistry and thermal treatment of these new steels.

Key to the successful integration of AHSS was use of simultaneous engineering techniques and close collaboration of steel company experts with the vehicle engineers at Porsche Engineering Services, who designed ULSAB-AVC. Early and active participation of steel company resources was instrumental in the selection and validation of the new steels.

"Our automotive customers are moving quickly to incorporate AHSS into the vehicles they will bring to market in the next few years and we look forward to continuing to help them take advantage of the superb properties and performance of advanced high-strength steels," said Krupitzer.

In addition to the use of advanced, high-tech steels in the body structure, ULSAB-AVC features intensive use of a range of steel grades, including a high percentage of AHSS, in a wide array of other applications.

Marcel van Schaik, director of Materials Technologies, AISI, explained, "The front suspension is a double wishbone design, with both wishbones using AHSS tailored blanks. Wheels, instrument panel beam, fuel tank, seat frames, bumper beams and closures all are steel. The closures (hood, doors, deck lid) incorporate high- and advanced high-strength steels, as well as tailor welded blanks and tubular hydroformed components."

ULSAB-AVC includes design and material concepts from the steel industry's prior research projects on closures (ULSAC) and suspensions (ULSAS). Successful integration of these concepts into a complete vehicle system confirms the mass-reducing and performance-enhancing potential of steel that the previous, independent project results predicted.

"Tailored blanks account for nearly 40 percent of the body structures, with hydroformed parts making up more than 20 percent and tailored tubes comprising six percent. Stamping is the predominant steel forming method in ULSAB-AVC, with more than 70 percent of the body structures and closure parts warranting use of this process," van Schaik said.

A consortium of 33 of the world's leading steel producers directed and funded the ULSAB-AVC study. Porsche Engineering Services, Inc., Troy, Mich., (PES) conducted the engineering work and managed the technical aspects of the program. For more information on technical details of ULSAB-AVC, visit www.ULSAB-AVC.org.
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