

**INSURANCE INSTITUTE
FOR HIGHWAY SAFETY**

February 12, 2001

L. Robert Shelton, III
Executive Director
National Highway Traffic Safety Administration
400 7th Street S.W., Room 5220
Washington, D.C. 20590

**Federal Motor Vehicle Safety Standard 301;
Fuel System Integrity
Docket No. NHTSA 00-8248, RIN 2127-AF36**

Dear Mr. Shelton:

The Insurance Institute for Highway Safety welcomes the notice of proposed rulemaking that should significantly strengthen fuel system integrity requirements of Federal Motor Vehicle Safety Standard (FMVSS) 301.

In our earlier comments, the Institute (1995) offered support for the changes in crash test procedures, and we continue to support them. We agree that changing the rear impact test to an 80 km/h offset impact with the FMVSS 214 deformable barrier will more closely duplicate the kinds of crashes that result in fuel leakage in the real world. The Institute also agrees that replacing the FMVSS 301 side impact test with the FMVSS 214 test would strengthen the overall test procedure. The lead times proposed for compliance with these new test procedures, 1 year for the new side impact test and 3 years for the rear impact test, should be sufficient.

However, we note that the mass and geometry of the FMVSS 214 barrier do not reflect the characteristics of pickup trucks and sport utility vehicles (SUVs) in the United States -- it is too low, and its face is too flat. Consequently, the FMVSS 214 barrier may not reproduce the patterns or extent of deformation seen when pickups and SUVs strike passenger cars in the side or rear. This issue should not delay the current rulemaking, but the National Highway Traffic Safety Administration (NHTSA) should consider it when evaluating the continuing adequacy of the FMVSS 214 barrier.

NHTSA also should move as quickly as possible to adopt frontal offset crash test requirements. Frontal offset deformable barrier crash tests create deformation patterns commonly found in severe real-world crashes. The offset loading challenges the vehicle's ability to retain its structural integrity. Take for example the Institute's test of a 2000 Isuzu Trooper in a 64 km/h offset condition (test no. CF00021). During the crash, a fuel hose located near the transmission housing was ruptured, and Stoddard fluid flowed freely from the

L. Robert Shelton, III
February 12, 2001
Page 2

rupture until the fuel line was clamped. Postcrash inspection found that the vehicle body had been pulled to the left by the offset loading, crushing the fuel hose between the body and the transmission. Despite its compliance with federal standards, this vehicle's fuel system vulnerability was exposed in the offset test.

We are disappointed with the decision not to initiate component tests. The notice states that a "review of NASS [National Automotive Sampling System] data did not reveal a significant difference in the rate or severity of post crash fire occurrence in vehicles with and vehicles without inertia activated fuel pump shut off devices." It is not surprising that an effect on such rare occurrences as postcrash fires was not discernible using only 5 years of NASS data.

NHTSA should require that the flow of fuel be quickly interrupted in any collision that causes the engine to stop. In the previously cited test of the 2000 Isuzu Trooper, no such mechanism was in place, and after the crash Stoddard fluid flowed continuously from the ruptured fuel hose. The Institute strongly supports implementation of requirements designed to stop the flow of fuel after a collision.

We also ask that the agency propose a more practical time interval in which the fuel spillage volume is first measured. The current standard indicates that no more than 28 g (1 oz.) of fluid can leak from the start of the impact to the cessation of vehicle motion. It is difficult, if not impossible, to segregate the fluid that spills during the impact from the fluid that spills just after motion ceases but before the fluid volume measurement can be made.

In conclusion, the Institute urges the agency to adopt the proposed rule immediately, and we ask that the other issues raised be considered as soon as possible.

Sincerely,



Adrian K. Lund, Ph.D.
Chief Operating Officer

cc: Docket Clerk, Docket No. NHTSA 00-8248, RIN 2127-AF36

Reference

Insurance Institute for Highway Safety. 1995. Comment to the National Highway Traffic Safety Administration concerning Federal Motor Vehicle Safety Standard 301, Fuel System Integrity, Docket No. 92-66, Notice 3, June 12, 1995. Arlington, VA.