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You may send mail to both of these officials at the National Highway Traffic Safety Administration, 400 Seventh Street SW., Washington, DC 20590.

You may call Docket Management at (202)-366-9324. You may visit the Docket on the plaza level at 400 Seventh Street SW., Washington, DC, from 10 a.m. to 5 p.m., Monday through Friday.

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I. Background

A. Existing Standard

Standard No. 301, *Fuel system integrity*, sets performance requirements for the fuel systems of vehicles with a gross vehicle weight rating (GVWR) of 4,536 kg (10,000 pounds) or less. The standard, which was issued in the 1970s, limits the amount of fuel spillage from fuel systems of vehicles during and after being subjected to a frontal, rear, or side impact test.

In the frontal impact test, the test vehicle is driven forward into a fixed barrier at 48 km/h (30 mph). In the rear impact test, a 1,814 kg (4,000 pound) barrier moving at 48 km/h (30 mph) is guided into the full width of the rear of a stationary test vehicle. In the side impact test, a 1,814 kg (4,000 pound) barrier moving at 32 km/h (20 mph) is guided into the side of a stationary test vehicle. The standard sets three separate limits on fuel spillage from crash-tested vehicles: 28 grams (1 ounce) by weight, during the time period beginning with the start of the impact and ending with the cessation of vehicle motion; a total of 142 grams (5 ounces) by weight during the 5-minute time period beginning with the cessation of vehicle motion; and 28 grams (1 ounce) by weight during any 1-minute interval in the 25-minute period beginning with the end of the 5-minute period.

Similar fuel spillage limits apply to vehicles tested in accordance with the standard's static rollover test procedure.¹ The rollover test is conducted after frontal, rear, and side impact tests.

B. Safety Problem

Preserving fuel system integrity in a crash is critical to preventing occupant exposure to fire. Although vehicle fires are relatively rare events (occurring in

less than 1 percent of vehicles in towaway crashes), they tend to be severe in terms of the number of casualties caused. According to an analysis of data in the agency's Fatality Analysis Reporting System (FARS) in 2001, 3.5 percent (1,449 fatalities) of light vehicle occupant fatalities occurred in crashes involving fire.² Overall, the fire itself was deemed to be the most harmful event in the vehicle for about 24 percent (341) of these fatalities.

An analysis of 1993-2001 National Automotive Sampling System (NASS) data indicated that each year an average of about 15,820 occupants were exposed to a post-crash fire in passenger cars and light vehicles (vans, pickup trucks, and multipurpose passenger vehicles) with a GVWR of 4,536 kg (10,000 pounds) or less that were towed away after the fire. Of those occupants, about 736 (6 percent) received moderate or severe burns (AIS 2 and greater). Three-quarters of those with moderate and more severe burns had second or third degree burns over more than 90 percent of the body. Moreover, the agency notes that maximum-severity (AIS 6) burns are nearly always fatal. These statistics underscore the importance of preserving fuel system integrity in a crash in order to prevent vehicle fires.

II. 1995 Advance Notice of Proposed Rulemaking

On April 12, 1995, NHTSA published an Advance Notice of Proposed Rulemaking (ANPRM) announcing the agency's plans to consider upgrading Standard No. 301.³ The agency explained that it was considering using a three-phase approach to upgrade the requirements of the standard. Phase 1 would focus on requirements for component performance (e.g., fuel tanks, fuel pumps, and electrical systems); Phase 2 would address system performance (e.g., shutting down fuel supply and potential ignition sources in the event of a breach in the fuel system); and Phase 3 would address issues related to environmental and aging effects (e.g., the potential relationship of vehicle aging to fire occurrence). The

² These fatalities included fatalities due to burns and/or impact injuries, but not due to asphyxiation.

³ 60 FR 18566. Previously, the agency published a Request for Comments notice stating that NHTSA was "considering initiating rulemaking to upgrade the protection currently provided by" Standard No. 301. 57 FR 59041, December 14, 1992; Docket No. 92-66, Notice 1. The notice also requested answers to specific questions related to test impact speeds, impact barriers, effect of vehicle aging on the likelihood of fire, contribution of occupant entrapment to the likelihood of fire-related injuries, etc.

¹ Under S5.6, *Fuel spillage; rollover*., when a vehicle is rotated along its longitudinal axis to each successive increment of 90 degrees, fuel spillage from the onset of rotational motion must not exceed 142 grams (5 ounces) for the first 5 minutes of testing, at each successive 90 degree increment. For the remaining test period at each increment of 90 degrees, fuel spillage during any one minute interval must not exceed 28 g (1 ounce).