

ability of tires to withstand the effects of factors mentioned during the consideration and enactment of the TREAD Act, such as tire heat build up, low inflation, and aging. The agency conducted extensive testing, data gathering and analyses as well as reviewed other existing international, industry and national standards and proposals, and submissions by the public.

As a result of these efforts, the agency identified an array of amendments for revising and updating its tire standards and thereby improving tire performance. In the notice of proposed rulemaking (NPRM) that NHTSA published on March 5, 2002 (67 FR 10050, Docket No. NHTSA-00-8011), the agency proposed to upgrade its existing requirements and test procedures addressing the following aspects of tire performance: Tire dimension, high speed, endurance, road hazard impact, and bead unseating. The agency proposed also to add new requirements that would require that underinflated tires and aged tires provide specified levels of performance.¹ The agency recognized the potential significant cost of some of the proposed amendments, but decided that, in view of the broad mandate in the TREAD Act and the uncertainty associated with the analysis of benefits and costs, the most appropriate course of action was for the agency to seek public comment on the wide array of proposals and use the information in the responses to adjust and refine the amendments.

The highlights of the proposal were as follows:

(1) *High speed and endurance tests*—the current high speed and endurance tests in FMVSS No. 109, *New Pneumatic Tires—Passenger Cars*, 49 CFR 571.109, would have been replaced with a more stringent combination of testing parameters (ambient temperature, load, inflation pressure, speed, and duration.) The proposed high speed test would have specified test speeds (140, 150 and 160 km/h (87, 93, and 99 mph)) that are substantially higher than those currently specified in FMVSS No. 109 (120, 128, 136 km/h (75, 80, 85 mph)). The proposed endurance test would have specified a test speed 50 percent greater (120 km/h (75 mph)) than that currently specified in FMVSS No. 109 (80 km/h (50 mph)), as well as a duration that is 6 hours longer (40 hours total) than that

currently specified in FMVSS No. 109 (34 hours total).²

(2) *Road hazard impact test and bead unseating test*—these two tests would have been modeled on SAE Recommended Practice J1981, *Road Hazard Impact Test for Wheel and Tire Assemblies (Passenger Car, Light Truck, and Multipurpose Vehicles)*, and the Toyota air loss test, respectively. These new tests would have replaced the strength and bead unseating resistance tests in the current FMVSS No. 109 with tests that were believed to be more real-world and more stringent.

(3) *Low inflation pressure performance*—two alternative tests were proposed. Both tests would have utilized tires significantly under-inflated, for instance, 140 kPa (20 psi) for P-metric tires (the low inflation pressure threshold requirement for warning lamp activation in the then proposed Tire Pressure Monitoring System (TPMS) standard, Docket No. NHTSA-00-8572 (66 FR 38982, July 26, 2001)), as the “inflation pressure” testing parameter for standard load P-metric tires.

(4) *Aging effects*—three alternative tests were proposed that would have evaluated a tire’s long term durability through methods different than and/or beyond those required by both the current and the proposed endurance test parameters. The three tests would have used peel strength testing, long-term durability endurance requirements, and oven aging, respectively.

(5) *Tire Selection Criteria/De-Rating of P-metric Tires*—the agency proposed retaining the de-rating percentage of 1.10 for P-metric tires used on non-passenger car vehicles and revising FMVSS No. 110 to specify that the determination of vehicle normal load (“reserve load”) on the tire be based on 85% of the load at vehicle placard pressure.

Also, the agency discussed revising FMVSS No. 110, *Tire selection and rims*, for passenger cars, 49 CFR 571.110, and FMVSS No. 120, *Tire selection and rims for motor vehicles other than passenger cars*, 49 CFR 571.120, to reflect the applicability of the proposed new light vehicle tire standard to vehicles up to 10,000 pounds GVWR. It also discussed revising FMVSS No. 117, *Retreaded pneumatic tires*, 49 CFR 571.117, and FMVSS No. 129, *New non-pneumatic tires for passenger cars*, 49 CFR 571.129, to replace the performance tests that

reference or mirror those in FMVSS No. 109 with those specified in the proposed new light vehicle tire standard.

The agency proposed two alternative implementation schedules for tires: A two-year phase-in under which all applicable tires would have been required to comply with the final rule by September 1, 2004, and a three-year phase-in under which all applicable tires would have been required to comply with the final rule by September 1, 2005. For light vehicles, the agency proposed that all those manufactured on or after September 1, 2004 would have had to comply with the final rule.

The aforementioned proposals are summarized more fully in section IV.B. of this document.

B. Highlights of the Final Rule

In response to the NPRM, the agency received cost data from commenters and other information that assisted it in refining its assessment of benefits and costs and in choosing amendments to fashion a final rule that will offer the American public enhanced tire safety and be consistent with the principles of Executive Order 12866. The resulting final rule establishes new and more stringent tire performance requirements that apply to all new radial tires for use on passenger cars, multipurpose passenger vehicles, trucks, buses and trailers that have a gross vehicle weight rating (GVWR) of 4,536 kg (10,000 pounds) or less and that are manufactured after 1975, and to all new passenger cars, multipurpose passenger vehicles, trucks, buses and trailers that have a GVWR of 4,536 kg (10,000 pounds) or less. The requirements are fully summarized in section VI.A. of this document.

The agency believes the final rule is a reasoned one that is based on the best currently available information and that will improve tire safety. NHTSA believes that this rule will be effective at ensuring that future tires will have their strength, endurance, and heat resistance evaluated in a way that will increase the required level of performance.³ As a result, these tires are expected to exhibit less variability in levels of performance and experience fewer blowouts and tire failures. Additionally, the reserve load requirements of FMVSS No. 110, combined with the de-rating of P-metric tires when used on SUVs, vans, trailers, and pick-up trucks, will provide a

¹ See 67 FR 69600; November 18, 2002, for the recently adopted tire information requirements. For the convenience of the reader, we have placed in the docket for today’s final rule a document that shows how the tire safety information and performance requirements appear together in Standard No. 139.

² At the specified test speed (120 km/h), the proposed endurance test distance (4800 km) would have been almost double the distance accumulated than under the current endurance test (2720 km at 80 km/h).

³ The agency estimates that 5–11% of tires will have to be modified to meet this final rule.