unnecessarily stringent for towing trailers and dollies in hard brake applications over 40 psi. Therefore, the agency has decided to adopt the petitioner's request to permit pressure differentials of up to 5 percent during hard brake applications.

Advocates criticized several aspects of the proposal to amend the pressure differential requirements. Specifically, that organization expressed concern that the amendment (1) was not supported by real world testing data, (2) would adversely affect safety, (3) was inappropriate for certain braking techniques, and (4) would allow spool valves, which it viewed as inferior. As explained below, NHTSA has concluded that Advocates' concerns are without merit.

Advocates contended that there is no real world safety data to support the proposed amendment. It stated that it is ''opposed to safety-related regulatory changes which rely only on *a priori* calculations for gauging probable safety consequences.'' It therefore requested the agency to specify real world braking demonstrations to establish that spool type valves will not degrade safety.

NHTSA disagrees with Advocates' contention that there are no real world data to support the amendments to the control line pressure differential requirements. In fact, the agency has two reports containing a substantial amount of test data regarding real world braking.[5] These reports cover a substantial amount of real world braking demonstrations, including actual control line pressures under a full range of conditions used in a wide range of braking applications. Supporting data also indicate that the cut off point of 40 psi exceeds the braking conditions addressed by this rulemaking. All the test data in the antilock report are real world fleet test data and the down-hill test data in the Braking Strategy study are also real world and based on dozens of test runs. These reports illustrate that the cut-off point of 40 psi is reasonable. They further illustrate that a higher pressure is not necessary since approximately 99 percent of heavy braking occurs below that pressure.

Advocates claimed that the proposed amendments to the control line pressure requirements would have a deleterious effect on safety under severe braking conditions. That organization, however, did not state what it considers to be severe braking conditions.

NHTSA believes that Advocates' concern that the amendment would adversely affect safety is without merit, since, as mentioned above, approximately 99 percent of braking occurs at 40 psi or less. At 75 psi, which represents a panic stop on dry pavement that would most likely lock all the wheels unless the vehicle were fully loaded, the Sealco valves showed only a 1.5 psi tracking variation[6] in either the ascending or descending brake line pressures.

With regard to the safety of tracking error variation, the agency prefers a tracking error of zero as an ideal. However, that would be unrealistic for a valve manufacturer to achieve. Because of manufacturing variations in the valves along with hysteresis, 2 psi is a reasonable pressure limit at the low end.

Advocates commented that the agency mischaracterized braking practices. It stated that while snubbing (i.e., intermittently exerting force on the brake pedal) brakes at relatively low pressures is the preferred braking technique, drivers often ''ride'' (i.e., exert a constant force on the brake pedal) the brakes at higher pressures in long downhill descents.

NHTSA believes that Advocates' statement is not accurate, since all the agency's research data show that ''riding'' the brakes produces pressures that are approximately 50 percent lower than ''snubbing'' pressures. The agency further notes that Advocates' concern about snubbing or riding the brakes is not relevant since the air pressure requirements are being amended for pressures higher than those used in snubbing or riding the brakes. The air system pressure in either of the two braking methods is less than the 40 psi cut-off point established by this amendment. Worst-case conditions produced by snubbing in mountain grade descents average about 27 psi with peaks to 32 psi. Riding the brakes results in air pressure that seldom exceeds 10 psi, even on mountain descents.[7]

Advocates expressed concern that low pressure spool type valves could adversely affect safety compared to poppet valves. However, NHTSA notes that each type of valve is used in specific applications to its own best advantage. The agency is aware of no application in which either type should be restricted by performance requirements in Standard No. 121. There are no data available on the performance of air brake spool valves vs poppet type air brake valves, because the former type of values have not posed a problem.

Effective date. Each order amending a safety standard is required to take effect no sooner than 180 days from the date the order is issued unless ''good cause'' is shown that an earlier effective date is in the public interest. NHTSA has determined that there is ''good cause'' not to provide the 180 day lead-in period given that this amendment will not impose any mandatory requirements on manufacturers. The public interest in being able to use an alternative technology will also be served by not delaying the introduction of the requirement. Based on the above, the agency has further determined that there is good cause to have an effective date 30 days after publication in the **Federal Register**.

VI. Rulemaking Analyses and Notices

1. Executive Order 12866 (Federal Regulatory Planning and Review) and DOT Regulatory Policies and Procedures

This rulemaking was not reviewed under E.O. 12866. NHTSA has analyzed this rulemaking and determined that it is not ''significant'' within the meaning of the Department of Transportation's regulatory policies and procedures. A full regulatory evaluation is not required because the rule has no mandatory effects and therefore imposes no costs. Further, it does not make possible cost savings. Instead, the rulemaking simply permits the use of spool valve technology.

2. Regulatory Flexibility Act

In accordance with the Regulatory Flexibility Act, NHTSA has evaluated the effects of this action on small entities. Based upon this evaluation, I certify that the amendment will not have a significant economic impact on a substantial number of small entities. Vehicle and brake manufacturers typically do not qualify as small

[5] See, (1) ''An In-Service Evaluation of the Performance, Reliability, Maintainability and Durability of Antilock Braking Systems (ABSs) for Semitrailers'', DOT HS 806059; October 1993, and (2) ''The Influence of Strategy on Brake Temperatures in Mountain Descents'' DTFH61–89–C–00106; March 1992.

[6] Tracking variation is a measure of how well matched the air pressure is between the (control) line side of the air brake system and the actual (service) air pressure being sent to the brake chambers. For example, if the driver's foot is placed on the brake pedal such that a 20 psi signal is sent to the valve that releases the air from the air reservoir on the trailer and the control valve releases 20 psi to the brakes, there is ''zero'' tracking error. If the air pressure at the brake chambers is between 19 to 21 psi, the tracking error would be within the 1 psi requirement of the standard.

[7] A report titled ''The Influence of Strategy on Brake Temperatures in Mountain Descents'' DTFH61–89–C–00106; March 1992, contains extensive data by both VRTC and The University of Michigan which relate to the air brake pressure required in ''snubbing' and ''riding'' of the brakes.