performance is degraded as a result of heating rather than improved, so Chrysler's concern over inadvertent wheel lockup shouldn't be a problem on this stop.

The required level of absolute performance may or may not be met on this first stop. If it is not, the second stop allows a pedal force up to 500N. The reasoning for allowing a greater pedal force is that, in an actual driving situation, a driver will apply increased force to the brake pedal to compensate somewhat for degraded brake performance.

Multiple attempts are not allowed on the hot stop because it is important to measure hot performance while the brakes are still hot. If multiple runs were allowed, the performance measured on subsequent runs would not necessarily be a true measure of hot brake performance. While this fact makes the test somewhat more difficult to run, the agency found in its testing that it did not present problems for experienced test drivers.

c. Recovery performance. The GRRF and Fiat believed that to harmonize with R13H, the provision about pedal force needed to be modified to state that "a pedal force not greater than the average pedal force recorded during the shortest GVWR cold effectiveness stops." The GRRF further stated that the fade and recovery and hot performance tests should be compared with the cold effectiveness test and that the comparison would only be valid if the input (*i.e.*, pedal force) is the same in each test and the output (deceleration or stopping distance) is measured as in R13 and R13H.

The wording in S7.14.3(c) regarding the hot stop is already as requested by GRRF and Fiat, and NHTSA has decided to make a corresponding change in S7.16.3(c) to accommodate GRRF's request. The agency believes that this modification will help harmonize the standards without any corresponding detriment to safety.

Advocates recommended returning to an over-recovery deceleration based on 120 percent of the shortest GVWR cold effectiveness stop.

As explained in the 1987 SNPRM when the deceleration rate was increased to 150 percent, the test is still more stringent than FMVSS No. 105, even at the higher level. The performance requirement has remained unchanged since 1987, and Advocates has presented no reason why it should be changed now. Accordingly, the agency has adopted the requirement as proposed in the two SNPRMs.

Bendix and Ford requested the agency to define "average pedal force" more

fully. Bendix also asked the agency to define the phrase "not greater than" for purposes of the hot performance test.

NHTSA believes the terms "average" and "not greater than" are used the same way they would be defined in any dictionary, and therefore no definition is needed in the standard. Nevertheless, to avoid any misunderstanding, the terms are explained as follows: The term "average pedal force" is defined as the average value taken from the initiation of the pedal force until completion of the cold effectiveness stop. It is calculated from the pedal force/time curve of the shortest GVWR cold effectiveness stop, and includes any overshoot or spike that may be present at the beginning of the test. The phrase "not greater than" means that the maximum pedal force which can be applied during the first hot stop cannot exceed the average pedal force.

GM, MVMA, JAMA, Toyota and Ford believe that the response term (0.10V) of the recovery stop equation (S7.17.4) has been omitted (i.e., " * * * $\leq S-0.10V$ \leq * * * " instead of " * * * $\leq S$ \leq * * * ", thereby resulting in an "apples-to-oranges" comparison of the recovery stopping distance without adjusting for response time to the cold effectiveness stopping distance which is adjusted for response time. They believe the intent is to regulate recovery as a function of cold effectiveness performance after both are corrected to eliminate the response time distance. They believe that the equation should read as follows: $0.0386 V^2/1.50 d_c \le S 0.10V \le 0.0386V^2/0.70d_c$

NHTSA agrees that the 0.10V term should be in the stopping distance for recovery performance and has therefore made the following correction to the equation in S7.17.4:

$$\frac{0.0386V^2}{1.50d_c} \le S - 0.10V \le \frac{0.0386V^2}{0.70d_c}$$

G. Miscellaneous Comments

Advocates argued for inclusion of water recovery, spike stop and final effectiveness requirements that appear in FMVSS No. 105, but are not included in FMVSS No. 135. Advocates believes that the absence of these requirements will result in a degradation of safety.

NHTSA has already addressed the need, or lack of it, for these requirements in previous notices, and need not be repeated here. Advocates presented nothing to justify their arguments but unsupported conjecture. The agency has considered Advocates' comments, and has decided that there is insufficient justification for inclusion of these requirements.

Advocates also made general comments opposing this rulemaking as a whole. They stated that the resulting standard is decidedly inferior in multiple aspects to the existing FMVSS No. 105. Advocates expressed the fear that the new standard would allow the importation of cars without power assist, antilock brakes, automatic brake monitoring, and other desirable features of superior brake performance, that meet only the minimum requirements of FMVSS No. 135. It stated that these would likely be the smallest, cheapest cars on the market, which would also have the poorest overall crashworthiness.

The agency notes that none of the advanced safety features mentioned by Advocates are presently required by FMVSS No. 105. Advocates' assertion that FMVSS No. 135 is inferior to FMVSS No. 105 is contradicted by previously cited agency and industry test data which show the new standard to be at least, if not more difficult to meet, overall, than the existing FMVSS No. 105. Accordingly, the agency is not convinced by Advocates' arguments in opposition of the new standard, and has decided to issue this final rule.

IV. Regulatory Analysis

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

This rulemaking document was not reviewed under Executive Order 12866. NHTSA has considered the economic implications of this regulation and determined that it is not significant within the meaning of the DOT Regulatory Policies and Procedure. A Final Regulatory Evaluation (FRE) has been prepared setting forth the agency's detailed analysis of the economic effects of this rule, and has been placed in the public docket.

Based on its analysis, NHTSA has determined that FMVSS No. 135 ensure an equivalent level of safety for those aspects of performance covered by FMVSS No. 105 and will also address additional areas of brake performance which offer safety benefits. It will offer decreased costs for the production of passenger cars, by reducing non-tariff barriers to trade. Further, the agency believes that the full test procedure in the new standard will require approximately the same amount of time and money to complete as the existing procedure under FMVSS No. 105.