

improvements to their states child restraint laws.”

b. Updated Bench Seat

There was unanimous support for amending Standard No. 213's specifications for the test seat assembly used to test child restraints in the agency's compliance tests. Almost all of the commenters believed that the test seat assembly should be more representative of the seats of newer passenger vehicles. Two commenters (Martha Bidez, Public Citizen) had an opposing view. Ms. Bidez believed that the seat assembly should either have features representing seats in the average age vehicle in the U.S. (which the commenter stated is 9 years old) or features that present the most demanding (“worst case”) conditions under which child restraints should be tested. Public Citizen suggested that the agency should adjust its testing, or create another test, that will measure the effectiveness of child restraints in older cars.

Amending the seat cushion angle by increasing it from 8 degrees off horizontal to 15 degrees was generally supported, as was amending the seat back angle by increasing it from 15 degrees off vertical to 22 degrees. Several commenters viewed these changes as aligning the bench seat more with the ECE Regulation 44 seat assembly bench and suggested that the agency completely use the ECE Regulation 44 seat dimensions.

Most commenters agreed with the proposals for amending the seat belts on the test seat assembly. Some commenters expressed concerns about certain aspects of the test seat assembly's seat belts that were not addressed by the NPRM, such as the vertical location of the lap belt anchorages.

On the other hand, commenters did not see eye-to-eye on the proposal to change the seat back to represent a fixed vehicle seat. Supporters of the change believed that a fixed seat back replicates today's seat back in passenger cars and harmonizes with the test bench setups for ECE, Canadian and Australian regulations. Some commenters were concerned that not enough was known about how fixing the seat back would affect child restraint system performance, while others opposed the proposal believing that fixing the seat back would result in a less rigorous test condition.

Several commenters responded to the NPRM's request for comments on the agency's decisions against changing, at this time the length of the bench seat's bottom seat cushion, including a floor to

the seat assembly; and changing the stiffness of the seat assembly's cushion. A number of commenters believed that the stiffness of the seat cushion has a strong effect on child restraint performance. Some commenters were uncertain whether performance would be affected and suggested that testing and research be completed before changing the foam.

c. Crash Pulse

The comments focused generally on the issues of the sled pulse shape (widening of the corridor) and severity. Many commenters agreed with the agency that widening the corridor of the sled pulse from 80 milliseconds (ms) to approximately 90 ms in duration would allow more laboratories to run the compliance test without decreasing the effectiveness of the testing. However, child restraint manufacturers expressed concern that widening the corridor will make the standard more stringent, because child restraint manufacturers will have to design products that can comply at the new extremes of the compliance corridor. These commenters also believed that a wider test corridor will necessarily lead to more lab-to-lab variability during certification and compliance testing, which, the commenters stated, increases the compliance burden on manufacturers.

ARCCA, Inc. believed that the Standard No. 213 pulse is actually less severe than all of the 30 mph barrier test pulses from actual vehicles, and that the standard's pulse severity should be increased. All other commenters did not want to increase the severity of the crash pulse. Many expressed the view that the velocity change should not be raised because the current test is already reflective of the top few percent of crashes. A number of commenters believed that the crash pulse should be reduced in severity because the most frequent crashes involving children in child restraints are those with lower crash pulse severities than the test pulse. Others believed that a relatively severe, “worst case” scenario should be replicated.

d. New Dummies

Commenters generally supported using the CRABI and Hybrid III 3-year-old dummies in Standard No. 213 compliance tests, in place of the 9-month and Hybrid II 3-year-old dummies now used by the agency. However, a number of commenters expressed concerns that the Hybrid III 6-year-old dummy's neck was too flexible for use in testing child restraints. These commenters suggested that the agency continue its use of the Hybrid II 6-year-

old dummy rather than use the Hybrid III dummy in its place. Most commenters objected to using the weighted Hybrid III 6-year-old dummy (weighted to 62 lb) to assess injury reference values in compliance tests of child restraints recommended for use by children weighing over 50 lb. Most believed that the dummy's weighting produced a dummy that was unrepresentative of a 62 lb child. Some were concerned that the weights could interfere with the proper functioning of the dummy's instrumentation. Some of these commenters suggested that the dummy should be used only to assess the structural integrity of child restraints in the standard's dynamic test, and not the capability of the restraint to limit head excursion or forces to the dummy's head, neck or chest areas.

e. Application of the Standard

Of the commenters addressing application of the standard, a majority supported increasing the weight limit contained in the “child restraint system” definition. Most of these commenters supported increasing the weight limit to 65 lb with a future increase to 80 lb upon introduction of the 10-year-old dummy. A few commenters opposed establishing 65 lb as an intermediate step in favor of amending the standard directly to 80 lb. There were also a few divergent comments on whether the agency should extend the regulation to a maximum weight beyond that of the heaviest dummy used in the standard.

f. Injury Criteria

The agency received widely divergent comments on the proposal to limit measurement of HIC to 15 milliseconds and to use the injury criteria of Standard No. 208 that were scaled for children. The Alliance, UMTRI and SafetyBeltSafe supported the use of a 15 ms limit on the head injury criterion (HIC) limit as a more realistic way to assess head and brain injury, with the lower HIC values proposed for each dummy. JPMA stated that it was willing to consider supporting a 15 ms limit (HIC 15), if the agency can undertake research to assure that there will not be unintended consequences from countermeasures needed to meet HIC 15. However, JPMA did not support the other proposed new injury criteria, including the scaled HIC values. The commenter stated that the tests of child restraints it conducted with the proposed CRABI and Hybrid III dummies produced injury reference values that exceeded the proposed limits, which the commenter said is a concern given the high level of