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I. Background

A. The Hybrid III 6-Year-Old Test Dummy

On January 13, 2000, NHTSA issued a final rule establishing specifications and test procedures for a new, more advanced six-year-old child test dummy (H-III6C).¹ The agency determined that a new six-year-old dummy was needed to evaluate the risks of air bag deployment for children, particularly for unrestrained children. The agency adopted the H-III6C dummy because it had a more humanlike impact response than the six-year-old dummies that existed at that time, and because it allowed the assessment of the potential for more types of injuries. The agency also concluded that the H-III6C dummy would provide greater and more useful information in a variety of automotive impact environments to better evaluate child safety.

B. The Need for a Heavier Child Dummy

Research has shown that children, even those older than six years, do not fit properly in adult vehicle seats, and that adult belt restraint systems cannot be properly applied over the load bearing structural parts of children's torsos.² Moreover, both the National Transportation Safety Board (NTSB)³ and the "Blue Ribbon Panel II: Protecting Our Older Child

Passengers"⁴ have recommended that older children be restrained in child safety seats, booster seats, or safety belts appropriate for their size and weight. Both recommended also that a universally acceptable crash test dummy approximating a ten-year-old child should be developed. In addition, child restraint manufacturers, while attempting to develop specialized child restraint systems and booster seats for larger children, have found themselves hampered in this effort by not having an appropriately sized dummy.

In March 2000, NHTSA responded to these needs by asking the Society of Automotive Engineers (SAE) to take the lead in developing a Hybrid III ten-year-old child size dummy. This effort received a further boost from Congress on November 1, 2000, when the Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act was enacted.⁵ Section 14 of the TREAD Act directs NHTSA to consider whether to require the use of anthropomorphic test devices that "represent a greater range of sizes of children, including the need to require the use of an anthropomorphic test device that is representative of a ten-year-old child * * *." Further, on December 4, 2002, Congress enacted Pub. L. 107-318 (Dec. 4, 2002; 116 Stat. 2772) ("Anton's Law"). Section 4 of Pub. L. 107-318 directs that—

(a) Not later than 24 months after the date of the enactment of this Act, the Secretary shall develop and evaluate an anthropomorphic test device that simulates a 10-year-old child for use in testing child restraints used in passenger motor vehicles.

(b) Within 1 year following the development and evaluation carried out under subsection (a), the Secretary shall initiate a rulemaking proceeding for the adoption of an anthropomorphic test device as developed under subsection (a).

Responding to NHTSA's call, the SAE designed and developed a Hybrid III ten-year-old child size dummy weighing approximately 76 pounds. In accordance with the agency's rulemaking and research plans and in furtherance of Section 4 of Pub. L. 107-318, NHTSA is evaluating the dummy for incorporation into Part 572. However, the evaluation will take time, as necessary design modifications are

usually necessary for a dummy to be suitable for incorporation into 49 CFR part 572. In the meantime, child restraint system manufacturers will still need a dummy approximating children in the seven to eight year old age bracket, *i.e.*, children above 50 pounds. To meet this need, the agency is considering a weighted version of the current H-III6C dummy, one that weighs approximately 62 pounds instead of the 52-pound weight of the H-III6C dummy.

C. NPRM on Standard No. 213

The agency issued an NPRM in May 2002 proposing a number of changes to Standard No. 213 in response to Section 14 of the TREAD Act, including a proposal to use the weighted dummy in the agency's compliance tests of child restraint systems recommended for use by larger children, *i.e.*, children from 50 to 65 pounds. (67 FR 21806; May 1, 2002; Docket No. 02-11707.) The use of the dummy was viewed as an interim measure until such time that the Hybrid III ten-year-old dummy becomes available. The agency proposed that the dummy would be used in Standard No. 213's dynamic testing to measure the forces that are sustained by the dummy's head, neck, and chest when restrained by the child restraint in a simulated crash. Standard No. 213 would require the child restraint to limit the forces to specified levels. In addition, it was proposed that the dummy would be used to assess the restraint's ability to maintain structural integrity in a crash when the dummy is restrained in it, and to limit excursion of the dummy's head, torso and knees.

Today's document proposes to incorporate into Part 572 the weighted six-year-old dummy that was described in the May 2002 NPRM. That dummy has extensive instrumentation to measure the potential for injuries to the head, the upper and lower ends of the neck, and the chest, as well as other areas of the dummy. Comments were requested and received by the agency on the suitability of the weighted, instrumented dummy for use in Standard No. 213 compliance tests of booster seats and other child restraints recommended for use by children weighing over 50 lb.

Some commenters on the May 2002 NPRM expressed concerns or questions about using the dummy's injury assessment capabilities in Standard No. 213 compliance tests. Some commenters suggested that the weighted dummy does not adequately represent a child in the seven- to eight-year-old age bracket, and that the dummy should thus not be used in the compliance tests because it

¹ 65 FR 2059.

² Kathleen DeSantis Klinich, *et al.*, "Study of Older Child Restraint/Booster Seat Fit and NASS Injury Analysis," Technical Report, DOT HS 80 248, NHTSA/VRTC, November 1994.

³ NTSB, Safety Recommendation H-96-25, Study on Advanced Air Bags, Safety Belts and Child Restraint Issues, September 1996. A copy of this document has been placed in the docket.

⁴ Recommendations of the Blue Ribbon Panel II: Protecting Our Older Child Passengers, March 15, 1999. The panel was announced by Transportation Secretary Rodney Slater and Ricardo Martinez, M.D., NHTSA Administrator, on November 19, 1998, with a mission of recommending ways to increase the use of age- and size-appropriate occupant restraints by children ages four through fifteen whenever they are riding in a motor vehicle. These recommendations can be found at http://www.actsinc.org/whatsnew_6.cfm.

⁵ Public Law 106-414, 114 Stat. 1800.