

October 21, 2004

Honorable Jeffrey Runge, M.D., Administrator  
National Highway Traffic Safety Administration  
U.S. Department of Transportation  
400 Seventh Street, S.W.  
Washington, D.C. 20590

**PETITION FOR RECONSIDERATION  
OF THE FINAL RULE REGARDING POWER-OPERATED WINDOW, PARTITION,  
AND ROOF PANEL SYSTEMS, AND  
PETITION FOR RECONSIDERATION  
OF THE DECISION DENYING THE CENTER FOR AUTO SAFETY  
PETITION FOR RULEMAKING**

**PETITION FOR RECONSIDERATION FILED BY:  
Advocates for Highway and Auto Safety, Center for Auto Safety (CAS), Consumers for  
Auto Reliability and Safety (CARS), the Consumer Federation of America (CFA),  
Consumers Union, 4RKidsSake, KIDS AND CARS, Kids In Cars,  
Public Citizen, Trauma Foundation, and the Zoie Foundation**

This is a petition for reconsideration of the final rule on *Power-Operated Window, Partition, and Roof Panel Systems*, published at 69 FR 55517 *et seq.* (September 15, 2004), Docket No. NHTSA-2004-19032, that was issued by the National Highway Traffic Safety Administration (NHTSA). This petition for reconsideration is timely and filed pursuant to 49 C.F.R. Part 553.35.

Petitioners are not-for-profit safety organizations that seek to improve vehicle and highway safety generally throughout the United States, and desire to protect children in motor vehicles. Petitioners seek reconsideration of the agency's decisions in the final rule that (a) did not require automatic reversal technology on all power windows, (b) did not prohibit the use of rocker-type and toggle switch designs, and, (c) requires the use of an overly large test device that will continue to allow the unintentional closure of power windows by children who have been left alone in a passenger vehicle.

This petition also seeks reconsideration of the agency decision to deny the petition for rulemaking submitted on August 19, 2003, by the Center for Auto Safety, Public Citizen, KIDS AND CARS, Advocates for Highway and Auto Safety, the Consumer Federation of America, Consumers for Auto Reliability and Safety, the Zoie Foundation, and the Trauma Foundation, and referred to in the final rule as the Center for Auto Safety or CAS Petition. *Id.*, at 55520. The agency denied the CAS Petition with respect to the request "that the agency require automatic reversal systems on all new light vehicle [sic] equipped with power windows." *Id.*, at 55528.

Most of the reported power window related deaths of young children occur while the vehicle key is in the ignition. The NHTSA has acknowledged that the operation of the safety

standard relies on a flawed premise, *i.e.*, that there will always be adult supervision in or near the vehicle when the key is left in the ignition, or when the power windows are otherwise enabled. Accordingly, the agency should have re-evaluated the underlying rationale of the standard in this rulemaking. Because the underlying premise of the standard does not accurately reflect real-world behavior and circumstances, the agency should reconsider important aspects of the final rule that are based on that flawed premise.

### **The Power Window Final Rule**

On September 15, 2004, the NHTSA issued a final rule amending Federal Motor Vehicle Safety Standard No. 118, *Power-Operated Window, Partition, and Roof Panel Systems*, 49 C.F.R. § 571.118. 69 FR 55517 *et seq.* The final rule concludes a rulemaking proceeding that began with the petition for rulemaking filed by Michael Garth Moore on September 29, 1995, and included a notice of proposed rulemaking (61 FR 58504, Nov. 15, 1996) and the filing of additional petitions for rulemaking including the CAS Petition.

During the rulemaking proceeding a number of safety issues were raised including strategic concerns about the best approach to improve the safety of unattended or unsupervised children, the need for automatic reverse technology to prevent power windows from closing on children, the need at least to prohibit the use of switch designs that are prone to inadvertent actuation, and, from a technical standpoint, the stringency of the test procedure for ensuring that switches cannot be inadvertently actuated.

In the final rule, NHTSA chose to address only part of the safety problem to which unattended children are exposed. Regrettably, the agency chose only to address the circumstance of inadvertent or unintentional activation of a power window switch by the child who suffers the injury. 69 FR 55517, SUMMARY. This approach ignores the documented cases in which one child inadvertently or intentionally operates a power window switch that entraps another child in a window, or an adult unwittingly activates the switch closing a power window on a child. 69 FR 55518 note 1. It also leaves undisturbed the fundamentally flawed approach of the standard which relies on driver vigilance and adult supervision.

The agency characterized the purpose and effect of its final rule “to require that switches for these [power-operated] windows and other items to be resistant to accidental actuation that causes those items to begin to close.” 69 FR 55517. NHTSA also asserted that the purpose of the amendments to Standard No. 118,

is to reduce the number of injuries and fatalities to people, especially children, that occur when they unintentionally close those power-operated items on themselves by accidentally leaning against or kneeling or standing on the switch or when other occupants accidentally actuate the switch in that manner.

*Id.*

This unrealistic compartmentalization of the safety problem ultimately led the agency to adopt an incremental approach to improve safety in some situations for only a portion of the at-risk population. Rocker switches, the most likely design for the type of inadvertent power window incident that the agency chose to address, are not prohibited, but only made somewhat more difficult to actuate. However, the specific technical requirements adopted by the final rule may make inadvertent actuation by a child's foot or knee somewhat less likely, but will not necessarily impede inadvertent actuation effected by a child's ball of foot, toe, elbow, or knuckle. Moreover, other incidents in which children intentionally, although unwittingly, activate power window switches are ignored. A far better, more universal approach to safety would have been for the agency to comprehensively address the entire safety problem and to propose a solution that would benefit the entire population placed at risk. The only comprehensive, meaningful solution was NHTSA mandating automatic window reversal for all light passenger vehicles.

### **NHTSA Is Obligated to Reexamine the Flawed Policy Assumption Underlying the Power Window Safety Standard**

This petition requests reconsideration of the final rule as well as NHTSA's decisions denying relief sought in the CAS Petition because the fundamental approach underlying the existing power window safety standard is inherently flawed. As the agency explains, the basic premise contained in paragraph S4 of the power window standard is the assumption of supervisory control over ignition key and power window switch operation. *See*, 69 FR 55518, 55519. "[T]he agency reasoned that the key would normally be in the ignition only when the driver were [sic] still in or near the vehicle, and thus in a position to supervise the operation of the vehicle windows." *Id.*, at 55518 note 3. As a factual matter, incidents of death and injury resulting from power window closings repeatedly occur under the conditions permitted by the NHTSA in S4 of the standard. These reported, documented incidents belie and countermand the stated justification for permitting power window operation without a safeguard to prevent injuries and death when the operating assumptions are violated.

The agency concedes that under the conditions allowed in S4, conditions that do not require automatic reversal but rely on adult supervision, children are not protected in all circumstances. NHTSA recognizes that the basic approach of the regulation cannot prevent entrapment with consequent deaths and injuries: "[A] driver may be distracted and close a power window on a child whose head is in the window opening." 69 FR 55524. Moreover, the agency also concedes that the problem of one child entrapping another by the first actuating the switch that closes the power window on the second child is similarly not eliminated: "In some cases involving two children playing in a vehicle, one child may intentionally activate the power window switch (as the switch was functionally intended to operate) with the unintentional effect of entrapping the other child." *Id.* The agency's regulatory response is only an attempt to improve the current regulation; it does not alter the current regulation's basic logic of supervision to prevent power window closings that cause death and inflict

injuries or effectively supersede the inadequacy of a regulation relying on vigilance and supervision:

[T]he present rulemaking action was deemed necessary because deaths and serious injuries involving power windows continue to occur, despite the safe guards already incorporated in the standard. The complete success of the earlier safeguards is dependent on children not being left unattended in vehicle [*sic*], or, if they are, on removal of the ignition key.<sup>1</sup>

*Id.* at 55519.

NHTSA admits that in light of the persistent recurrence of such incidents the built-in safeguards in S4 have failed, and the result has been child entrapments with resulting deaths and injuries:

The present rulemaking, which focuses on power window switch designs that are resistant to inadvertent actuation, could not prevent those cases, some of which stem from driver distraction or insufficient supervision. In such cases, *no particular switch design would prevent the relevant injuries or fatalities, although automatic reversal systems might be an effective, although very costly countermeasure.*

*Id.* at 55524 (emphasis supplied).

Despite the NHTSA premise that the power window operating conditions in S4 require adult supervision, in incident after incident power window actuation nonetheless occurred because the presumed adult supervision was lacking – either because the key was left in the vehicle with unattended children or because the adult supervision was inadequate. Thus, the recurrent fact pattern in power window injury and death cases makes it patently clear that agency expectations for successful operation of the power window standard do match real-world behavior or that real-world behavior materially and repeatedly departs from the premise of the standard. Not only is it foreseeable that the “adult supervision” premise will not work effectively in all situations, but it is evident that the working premise of the standard is ignored in a large number of situations each year which results in a steady stream of injuries and death to unattended children each year.<sup>2</sup> The agency cannot continue to ignore this glaring

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<sup>1</sup> NHTSA admits that deaths and serious injuries of children occurred with unattended children due to power window closings “despite the fact that power window operation in these vehicles was tied directly to the ignition locking system.” 69 FR 55523.

<sup>2</sup> These events take place all too frequently as has been partially documented by the agency’s own review limited to death certificates and the Lexis-Nexis™ database, as well as the information supplied to the agency by Kids and Cars that accompanied the CAS Petition. See note 4 *infra*. There is considerable concern that the statistics reported by NHTSA significantly underestimate the problem because the agency does not collect data on such incidents in the regular course of business. Thus, when the agency states that “[a] spike has reportedly occurred this year in power window deaths[,]” 69 FR 55523 note 17, this may not be accurate since there is no baseline

discontinuity between the underlying premise of the standard and the real-world behaviors that do not conform to that premise.

Unfortunately, the standard, at least the provisions of S4 to which all power window systems are certified for compliance,<sup>3</sup> relies on vigilance and “adult supervision,” not on fail-safe design and operation of power windows to prevent deaths and injuries. The fundamental premise of public health countermeasures is to change the nature of the environment in order to abate a risk rather than rely on the judgment of individuals and human behavior.

Although abundant evidence was placed before the agency that the conditions set forth in paragraph S4 of Standard No. 118 did not prevent the injury and death of children due to the permitted operation of power window systems, the agency chose not to re-evaluate the rationale of the safety standard. Despite the agency’s own recognition that the assumption of “adult supervision” resulted in recurrent incidents of injury and death from power windows, the agency failed to question whether the underlying assumption of the safety standard remained an appropriate basis for the protection of children. In light of the facts presented to NHTSA, it was incumbent on the agency to re-evaluate the fundamental premise of the standard and to consider a more universal approach to safety.

### **NHTSA Should Reconsider Its Decision not to Adopt Automatic Reversing Power Windows**

The NHTSA’s acknowledgement of dangerous power window closings that are the result of inadvertent switch engagement by an unattended child, or a child who is not adequately supervised by an adult, or even by a distracted driver, is left without resolution of this serious, ongoing safety problem in the final rule. *See, id.*, at 55524. Ultimately, NHTSA’s response to a serious safety problem of both inadvertent and intentional window closings by a performance test is clearly insufficient, and deaths and injuries from power window closings, although they may be somewhat reduced, will not be prevented. *See, id.*, at 55517. Indeed, the agency itself admits that the problem of child injuries and deaths in power window closures will persist. Petitioners regard this outcome of several years of rulemaking to be unacceptable. The agency has a duty to abate the unnecessary severe injuries and deaths of small children. The final rule cannot prevent many types of both inadvertent and intentional power window closings that inflict deaths and injuries. The agency has a duty to correct an inherently defective regulatory scheme that continues to inflict unnecessary harm on children.

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data against which to ascertain whether this is indeed a “spike” or the result of underreporting in previous years or the failure of the agency to obtain all such incident reports or death certificates from previous years.

<sup>3</sup> The preamble to the final rule states that “while a number of vehicles have automatic reversal systems, we are not aware of any that are certified to meet the requirements of S5.” 69 FR 55518. This indicates that all existing power window systems, whether equipped with automatic reverse or not, are certified in compliance under S4.

Petitioners are not persuaded by NHTSA's benefits and costs assessments in the final rule. These costs and benefits are based upon data concerning power window closing incidents inflicting deaths or injuries on children that are not reliable and probably underestimate the extent of the safety problem by a wide margin.<sup>4</sup> This means that the agency's solution to both inadvertent and intentional power window closings is inherently deficient and will inevitably result in further lives lost and serious injuries inflicted. When these deaths and injuries occur despite implementation of the agency's final rule amendment to Standard No. 118, the agency will be held accountable by the public and by the families who have suffered such losses for failing to do enough, to act decisively to prevent all power window closings that can cause deaths and serious injuries.

Moreover, it is not just a matter of the reported incidents, even if accurate reporting of injuries and deaths existed. The safety problem is much broader, including situations in which children are exposed to potential dangers from power windows, *i.e.*, are left unattended or inadequately supervised, regardless of whether an injury or death actually results. This means that the agency has a duty to abate the *risk* of failed supervision, a key defect inherent to the logic of the current regulation, and a fundamental principle of public health countermeasures.

It is undoubtedly the case that children are left unsupervised in vehicles in situations that fit the S4 conditions, thousands of times each day across the country. Fortunately, the power window systems are not activated in all such situations. Even though many children are likely exposed to active power window systems, serious injury and death probably results in only a small fraction of the instances in which unattended children could activate the power window system.

Any one of these situations of inadequate supervision, however, even with implementation of the agency's recent final rule, runs the significant risk of resulting in injury or death. Therefore, any approach to a safety solution must take into consideration the fundamental nature and breadth of the safety problem, that is, the numerous instances in which children are in fact left unsupervised with an active power window system (the key in the ignition or the availability of a remote control). That risk exposure is far greater than the number of actual instances of injuries and deaths, much less the even smaller number of reported injuries and deaths involving power window closings. The agency must provide a solution that protects all children who are exposed to this danger by eliminating the risk stemming from inadequate supervision. The agency's failure to consider this aspect of the

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<sup>4</sup> "Collectively, these factors suggest that any attempt to determine the size of this problem on a national level will undercount the actual number of incidents . . ." 69 FR 55529. The agency also correctly analogizes the safety problem of power window closings with the safety problem of trunk entrapments which were generally deemed to be of low numbers and frequency, but were later determined through more careful investigation to be a widespread safety threat. Petitioners are convinced that power window closings inflicting deaths and, in particular, injuries are also seriously underreported. Petitioners believe that many power window incidents resulting in both deaths and injuries cannot be found through death certificate or LexisNexis searches. *See, Data Collection Study: Deaths and Injuries Resulting from Certain Non-Traffic and Non-Crash Events*, National Highway Traffic Safety Administration, U.S. Department of Transportation, May 2004, Section IV.D.

problem – the nature and extent of the risk exposure itself that should be abated – also requires the agency to reconsider its decision not to require automatic reversal technology in the final rule.

The failure of the agency in its final rule to abate the risk of power window closings and consequent entrapments is countermanded by its own precedent in another area of safety protection that centered on preventing deaths and injuries to children. When NHTSA finally determined that children placed in the right front seat passenger seat were exposed to a substantially increased threat of death or severe injury as a result of front air bag deployments, the agency amended Standard No. 208, *Occupant Crash Protection*, to ensure that the sensors of front air bags were programmed to stop (suppress) deployment for children up to a certain weight and size. Although relatively few children were, in fact, killed or injured by such right front seat air bag deployments, NHTSA made a wise and compassionate decision to adopt a regulatory solution to the problem so that not only would such deaths and injuries be prevented, but that the widespread *risk* of such deaths or injuries would be abated for hundreds of thousands of children placed in right front passenger seats despite concerted agency efforts to urge parents and other guardians of children to relocate them to passenger vehicle rear seats.<sup>5</sup> Although that regulatory action imposed new, additional costs on vehicle manufactures, the special population at risk – children who could not know the risks involved from air bag deployments in the right front passenger seating area – NHTSA resolved to act to protect that high-risk population from even the safety threat supplied by such air bag deployments.

That action exactly parallels the risk at issue in the recent final rule. NHTSA originally cited costs of \$100 per window and \$400 per vehicle which the agency termed “unreasonably expensive.” 69 FR 55521 & 55527. The agency now recognizes that the cost of automatic reversal systems have decreased by an order of magnitude from its earlier cost estimates to as little as \$50 per vehicle according to figures provided in the CAS Petition, or even as low as only \$8 to \$10 per window, \$32 to \$40 per vehicle, according to information cited by the agency in the final rule. *Id.*, at 55528. However, the agency still did not embrace the obvious need to eliminate the risk of child entrapments through either inadvertent or even intentional actuation of switches raising power windows despite the dramatically lower costs to manufacturers. This failure to act, given the precedent of rear front seat air bag dangers to children, is an unsustainable posture for NHTSA that should be remedied by altogether removing the risk of entrapments and resulting deaths and severe injuries.

Petitioners have already cited the agency’s concession that no particular switch design will prevent all injuries and deaths, but that automatic reversal systems might the effective

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<sup>5</sup> NHTSA’s assumption in the power window standard, that appropriate adult supervision will always be present when the vehicle key is in the ignition, stands in sharp contrast to agency approach with regard to air bags. In requiring advanced air bag systems, NHTSA realized that despite the safety message to parents to always place children in the rear seat, some parents would not heed this advice. As a result, the agency required that air bags utilize available technology to protect children when they are inadvertently or unnecessarily exposed to danger. The agency should do the same to protect children from power window closings.

response to end such losses. *Id.* at 55524. Indeed, the final rule includes the parenthetical statement that NHTSA “is unaware of any deaths caused by a power window with an automatic reversal feature.” *Id.* at 55523. The agency also discusses such automatic reversal systems later in the preamble, stating its belief that, despite improvements in force sensing design of auto-reverse systems, “these systems still might not meet the requirements of S5 relating to protection of very small appendages, such as a child’s fingers.” *Id.* at 55527.

It is evident that the agency has not actually tested such force sensing designs for their efficacy.<sup>6</sup> In any case, although we agree that there should be no entrapment of any part of a child’s body, the crucial, lifesaving effect of an auto-reverse system is prevention of severe head injuries and strangulation. Similarly, although NHTSA cites the Center for Auto Safety’s documentation of a new non-contact auto-reverse system, it again is evident that the agency has not actually evaluated this or any other design. There are no documents in the administrative record of this rulemaking showing that, despite more than 8 years elapsing between a proposed rule and a final regulation for this important safety issue, the agency has systematically tested any auto-reverse designs to determine whether they can prevent serious injuries and deaths to children, and also overcome NHTSA’s misgivings about their effective operation under varying climatic conditions. *See, id.*, at 55528. Similarly, even if such systems were arguably satisfactory to the agency in terms of both safety effect and reliability, NHTSA argues that they cost too much per vehicle to justify the ensuing benefits.<sup>7</sup> *Id.*

This argument of excessive cost is not available to NHTSA because the agency has taken a contrary stance in the past on the need to base its regulatory decisions solely on benefit-cost ratios. For example, NHTSA originally proposed on the basis of excessive costs to exclude rear seat occupants from upper interior head impact protection when it adopted new provisions for Standard No. 201. *See* 58 FR 7506, 7512 (February 8, 1993). Advocates filed comments with the docket arguing that, despite the much lower rate of rear seat occupancy, the passengers in these locations deserved equal protection from head injury inflicted by their heads impacting rigid structural features in the upper portion of passenger vehicle occupant compartments.<sup>8</sup>

In the final rule establishing new safety requirements to reduce upper interior head injuries, NHTSA correctly perceived the inequity of excluding rear seat occupants from the

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<sup>6</sup> The fact that the agency is unaware whether the automatic reversal systems on current production models “are certified to meet the requirements of S5[.]” 69 FR 55518, indicates that the agency has not tested these systems.

<sup>7</sup> Petitioners disagree with NHTSA’s characterization of automatic reversal systems as “address[ing] those cases where a driver or other vehicle occupant intentionally closes a window while unaware that another occupant is in a position to become entrapped.” 69 FR 55528. The agency itself recognizes in the preamble to this final rule that such closings also occur when a child inadvertently engages a switch that injures or kills another child. *See, id.*, 55524. Auto-reversal systems would also prevent inadvertent power window closings by one child injuring another child. This strongly implies that the agency is underestimating the number of deaths and injuries that could be prevented by automatic reversal systems.

<sup>8</sup> *See* Advocates comments dated April 14, 1993, submitted to NHTSA Docket No. 92-28, Notice 02, pp. 4-5.

protection provided by the regulation for front seat occupants and it argued the case for adding rear seat upper interior head impact protection despite unfavorable benefit-cost calculations:

So long as the cost per equivalent life saved is reasonable,<sup>9</sup> NHTSA believes that a vehicle should offer the same level of protection to all occupants, regardless of the occupant's choice of seat.

In addition, the agency believes that the decision whether to regulate rear seating areas must take into consideration any special populations at risk. It is particularly **necessary** to protect children, who are often seated in the rear and who will be susceptible to head injuries unless the rear seating areas are include in this rule. For all vehicles, 37 percent of injuries and fatalities in rear seating areas are children ranging up to 17 years.

60 FR 43031, 43046 (August 18, 1995) (emphasis supplied).

The force of this argument holds in the instant case of the final regulation for reducing child entrapments from power window closings that lead to deaths and injuries. The special population at risk is clearly small children who through inadvertent actuation of a power window switch, or intentional actuation by another child or an inattentive adult, suffer the severe consequence of entrapment. It is clear that the only countermeasure that will ensure that children do not suffer deaths and injuries from power window entrapments is automatic reversal technologies.

### **NHTSA Should Reconsider The Decision to Require Recessed Switches as Its Regulatory Response to the Risk of Deaths and Injuries from Power Window Closings**

Even were the decision to limit the scope of the relief only to inadvertent actuation of power windows appropriate, NHTSA should have prohibited the use of switch designs that can easily be actuated through inadvertence or incidental contact. In the final rule the agency clearly makes the case that exposed "rocker" or "toggle" style switches, as opposed to the pull-up-to-close type of switch (the design that is exclusively used in European and Japanese produced passenger vehicles), are the switch designs that are predominantly involved in inadvertent actuation of power windows. "[W]e believe that rocker and toggle switches are more susceptible to inadvertent operation because of incidental contact (*e.g.*, a slight bump or nudging of the switch) can cause the window to begin to close." 69 FR 55523.

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<sup>9</sup> NHTSA elucidates this further in the final rule adopting upper interior head impact protection requirements in Standard No. 201:

While the costs per equivalent life saved still vary according to seating position, the conclusive factor in determining whether to regulate a particular seating position should not be the existence of such variations, but the reasonableness of the cost for that particular position. Calculating the cost per equivalent life would never yield the same figures for each seating position. \* \* \* [C]ost based on the degree of occupancy in each seating position will almost certainly lead to uneven estimates of cost per equivalent life saved.

60 FR 43046,

In the final rule, however, NHTSA merely imposes an additional performance requirement intended to reduce the vulnerability of these switches to accidental activation. However, manufacturers are permitted to continue to install these obviously inferior safety designs that are inherently susceptible of incidental actuation. As we emphasize in the next section, even the specific performance requirements adopted by the agency will not eliminate the likelihood of inadvertent actuation by accidental contact with switches designed to meet the specifications in the final rule. The agency in embracing this limited safety improvement to prevent inadvertent actuation should have had the determination simply to prohibit the use of this design in passenger vehicles where it might pose a danger to unsupervised children.

There is no reason, legal or otherwise, for the agency to have allowed a manifestly unsafe design of vehicle equipment to remain in use. There are numerous examples of the agency opting to be design restrictive where it made sense and it was the reasonable and appropriate safety and regulatory decision in order to ensure that a safety countermeasure achieved appropriate goals.

A major demonstration of NHTSA's willingness to propose and then to adopt a design-restrictive regulation was the promulgation of a final rule in 1995 amending both the hydraulic and air brake standards governing these stopping systems for medium and heavy vehicles exceeding 10,000 pounds gross vehicle weight rating (FMVSS Nos. 105 and 121), to require that they be fitted with antilock braking system (ABS) of specific designs. 60 FR 13216 (March 10, 1992). Although the agency also adopted a performance test in these amendments for truck tractors (a stability and steering control demonstration on a constant radius curve with a low coefficient of friction surface), this action was taken to ensure proper operation of the mandated ABS equipment required for tractors.

Similarly, one does not have to look very far in the current corpus of NHTSA vehicle regulations to see numerous other design-restrictive regulations, including almost all features of Standard No. 101, *Controls and Displays*; many features of Standard No. 108, *Lamps, Reflective Devices, and Associated Equipment*; and many features of Standard No. 111, *Rearview Mirrors*. This is far from exhausting available examples. Moreover, a more careful analysis of many standards, such as Standard No. 111 as just instanced, will reveal an admixture of both design-specific, design-restrictive, and performance-based requirements. This kind of hybrid regulatory approach is, in fact, a common characteristic of NHTSA's vehicle safety standards, and, accordingly, it strains credulity to the breaking point for the agency on occasion to invoke the specter of being "design restrictive" in a given rulemaking proceeding when NHTSA itself has over the life of the agency adopted many design-specific and design-restrictive features in its safety regulations.

It therefore is well within the discretion of the agency simply to prohibit switch designs that the agency itself, as already argued above, has conceded will continue to allow inadvertent actuation, including actuation of such switches of one child entrapping another child, despite the adopted "fix" of recessing such switches. Since the inadequate agency regulatory decision

does not eliminate rocker or toggle style switches from use in passenger vehicles and, as explained below, the new performance-based specifications using a 1.6 inch diameter ball will not even eliminate inadvertent actuation of power window switches built to this design in the future, NHTSA should reconsider this aspect of the final rule.

### **NHTSA Must Reconsider The Size Of The Test Device Used To Determine The Safety Of Recessed Switches**

NHTSA abbreviated the scope of the safety problem it chose to address from all power window closings that harm children to only the inadvertent actuation of power window switches. The agency then permits in the final rule the continued use of the switches it found are most susceptible to inadvertent actuation as long as they will, in future, be recessed. Yet, in determining the performance specifications for this safety improvement, the agency increased the size of the test device by 60 percent (from 1 inch to 1.6 inches) over that proposed in the notice of proposed rulemaking. As a result, the recessed opening for the switch will be far larger and shallower than the agency proposed in 1996 and, as a result, it is far more likely that switches designed to meet this standard will still permit inadvertent actuation of power windows by the hands, knuckles, elbows, toes, and even the knees of young children.

The agency acknowledges that the use of the adopted performance measure – testing switch actuation by means of a 1.6 inch diameter rigid ball simulating a child’s knee – is only a partial response to the problem of power window deaths and injuries: “[T]he proposed requirements would offer a safety benefit in **reducing** the number of fatalities and injuries resulting from inadvertent closure of power windows.” *Id.* at 55521 (emphasis supplied). That reduction, however, depends upon “power-window incidents resulting from inadvertent actuation.” *Id.* at 55523. Even the use of a different switch design, such as push-pull configurations, rather than rocker or toggle designs will not eliminate the,

uncertainty as to whether a child inadvertently actuated an exposed rocker or toggle switch, resulting in a window-closing injury or fatality. It is theoretically possible, as some commenters argued, that some of the children may have closed windows on themselves by actuating power windows in the normal way (*i.e.*, using fingers to actuate the switch). In such cases, switch redesign could not have prevented those accidents.

*Id.* at 55524.

As a result, the final rule attempts to make the use of toggle and rocker-type switches unattractive to manufacturers by effectively requiring that they be placed in wells so that these designs cannot be actuated by the application of the compliance test of non-destructively pressing a rigid 1.6-inch diameter ball against the switch location. *Id.*

However, as noted above, this countermeasure has a fatal weakness in that it is geared towards inadvertent switch engagement by the child who is also the victim of a power window closing. This regulatory response to a serious safety problem cannot prevent the action of one child left unattended in a vehicle engaging any switch design, including a push-pull design, that could entrap and severely injure or kill another child: “In some cases involving two children playing in a vehicle, one child may intentionally activate the power window switch (as the switch was functionally intended to operate) with the unintentional effect of entrapping the other child.” *Id.*

In fact, it is this potential for one child actuating any type of switch, but especially toggle or rocker switches, that led Advocates in its 1997 comments to the notice of proposed rulemaking on power window safety to stress that the proposed use of a 1-inch rigid ball to test switch actuation ignored the potential of one child activating power window closure on another child by the first child placing his or her elbow against the switch.<sup>10</sup> In its comments, Advocates also emphasized that,

[I]f NHTSA does not contemplate the avoidance of inadvertent switch activation by children’s elbows, then Advocates regards this regulatory action as inadequate. NHTSA has a responsibility to confront a serious source of inadvertent power switch activation by children. Avoiding this responsibility in favor of addressing important but arguably less frequent means of inadvertent activation does not fully serve the public interest.<sup>11</sup>

It is evident that NHTSA has chosen a course of not correcting all means of inadvertent switch actuation in the instant final rule. Although NHTSA notes Advocates’ argument that the agency needs to determine if a 1-inch diameter (or, now, 1.6-inch diameter) ball stops switch engagement by small children’s elbows,<sup>12</sup> the agency has apparently made no effort to perform the measurements that would determine whether small children can also actuate switches of any design with their knuckles, toes, or elbows, switches whose closing performance is tested by the application of the larger ball. *Id.* at 55522, 55526. NHTSA’s preamble narrative explaining that the 1.6 inch diameter test ball “is a reasonable representation of the predominant size and shape of a small child’s knee” demonstrates that the agency is only addressing switch actuation safety problems for the child who inadvertently presses on a switch with his or her own knee. The safety problem of one child effectively strangling another child by engaging a switch with an elbow or another part of a child’s body that is smaller than a 1.6 inch diameter ball (*e.g.*, a knuckle) is effectively ignored.<sup>13</sup>

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<sup>10</sup> See comments of Advocates for Highway and Auto Safety submitted on January 7, 1997, to NHTSA Docket No. 96-117 (61 FR 58504 *et seq.*, November 15, 1996), pp. 2-4.

<sup>11</sup> Advocates’ comments, *op. cit.*, p. 3.

<sup>12</sup> In the 1996 proposed rule, the rigid ball was 1 inch or 25 mm in diameter. See 61 FR 58504, 58506 (November 15, 1996).

<sup>13</sup> The agency effectively contradicts its own concession in the preamble of the final rule that no switch design can by itself prevent one child from actuating a power window switch that results in closing a window on another child by later arguing in its section on benefits that “[t]o the extent that these cases involved inadvertent operation

WHEREFORE PETITIONERS REQUEST:

that NHTSA reconsider its decision in the final rule on power window systems, and its decision denying the Center for Auto Safety Petition request that the agency adopt requirements to ensure the installation and fail-safe operation of automatic reversal technology in power window systems to prevent child deaths and injuries;

that NHTSA reconsider its decision in the final rule not to prohibit power window system switch designs that are susceptible to inadvertent actuation; and,

that NHTSA reconsider its decision in the final rule to adopt an overly large test device that is 40mm (1.6 inches) in diameter, and that is significantly increased in size over the actuation device presented by the agency in the notice of proposed rulemaking that was only 25mm (1 inch) in diameter.

Respectfully submitted,

Janette Fennell, Founder  
KIDS AND CARS

Joan Claybrook, President  
Public Citizen

Britt Gates  
The Zoie Foundation

Michele and Terrill Struttman  
Kid In Cars

Andrew McGuire, Executive Director  
Trauma Foundation

Judith Lee Stone, President  
Advocates for Highway and Auto Safety

Rosemary Shahan, President  
Consumers for Auto Reliability and Safety

Tammy Russell  
4RKidsSake

Jack Gillis, Executive Director  
Consumer Federation of America

Clarence Ditlow, Executive Director  
Center for Auto Safety

R. David Pittle, Senior Vice President  
Sally Greenberg, Senior Product Safety Counsel  
Consumers Union

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of the power window by a second child, the new switch requirements could provide further benefit by preventing actuation.” 69 FR 55529. This claim of augmented benefits is clearly not available to NHTSA because it has failed to provide any data or information in the administrative record of this rulemaking demonstrating that parts of a small child’s body, such as elbows or knuckles, cannot engage a switch designed and installed to pass the 0.8 inch diameter ball application compliance test adopted in the final rule.