



UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
4330 EAST WEST HIGHWAY
BETHESDA, MD 20814

DATE: May 3, 2017

BALLOT VOTE SHEET: This document has been electronically
approved and signed.

TO: The Commission
Todd A. Stevenson, Secretary

THROUGH: Mary T. Boyle, General Counsel
Patricia H. Adkins, Executive Director

FROM: Patricia M. Pollitzer, Assistant General Counsel
Matthew T. Mercier, Attorney, OGC

SUBJECT: Proposed Rule: Safety Standard for Booster Seats
BALLOT VOTE DUE - Tuesday, May 9, 2017

The Office of the General Counsel is providing for Commission consideration the attached draft notice of proposed rulemaking for publication in the *Federal Register*. The draft proposed rule would incorporate by reference the voluntary safety standard for booster seats pursuant to the Danny Keysar Child Product Safety Notification Act, section 104 of the Consumer Product Safety Improvement Act of 2008. In addition, the draft proposed rule proposes to amend 16 C.F.R. part 1112 to include the mandatory standard for booster seats in the list of notices of requirements.

Please indicate your vote on the following options:

- I. Approve publication of the attached document in the *Federal Register*, as drafted.

(Signature)

(Date)

II. Approve publication of the attached document in the *Federal Register*, with changes. (Please specify.)

(Signature)

(Date)

III. Do not approve publication of the attached document in the *Federal Register*.

(Signature)

(Date)

IV. Take other action. (Please specify.)

(Signature)

(Date)

Attachment: Draft *Federal Register* Notice: Proposed Rule to Establish a Safety Standard for Booster Seats

Billing Code 6355-01-P

CONSUMER PRODUCT SAFETY COMMISSION

16 CFR Parts 1112 and 1237

[CPSC Docket No. 2017-XXXX]

Safety Standard for Booster Seats

AGENCY: Consumer Product Safety Commission.

ACTION: Notice of proposed rulemaking.

SUMMARY: Section 104 of the Consumer Product Safety Improvement Act of 2008 (CPSIA) requires the United States Consumer Product Safety Commission (Commission or CPSC) to promulgate consumer product safety standards for durable infant or toddler products. These standards are to be “substantially the same as” applicable voluntary standards, or more stringent than the voluntary standard if the Commission concludes that more stringent requirements would further reduce the risk of injury associated with the product. The Commission is proposing a safety standard for booster seats in response to the direction under section 104(b) of the CPSIA. In addition, the Commission is proposing an amendment to include booster seats in the list of notice of requirements (NORs) issued by the Commission.

DATES: Submit comments by **[INSERT DATE 75 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Submit comments regarding information collection by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: Comments related to the Paperwork Reduction Act aspects of the marking, labeling, and instructional literature requirements of the proposed mandatory standard for booster seats should be directed to the Office of Information and Regulatory Affairs, the Office of

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Management and Budget, Attn: CPSC Desk Officer, FAX: 202-395-6974, or e-mailed to oir_submission@omb.eop.gov.

Other comments, identified by Docket No. CPSC-2017-XXXX, may be submitted electronically or in writing:

Electronic Submissions: Submit electronic comments to the Federal eRulemaking Portal at: <http://www.regulations.gov>. Follow the instructions for submitting comments. The Commission does not accept comments submitted by e-mail, except through www.regulations.gov. The Commission encourages you to submit electronic comments by using the Federal eRulemaking Portal, as described above.

Written Submissions: Submit written submissions by mail/hand delivery/courier to: Office of the Secretary, Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814; telephone (301) 504-7923.

Instructions: All submissions received must include the agency name and docket number for this proposed rulemaking. All comments received may be posted without change, including any personal identifiers, contact information, or other personal information provided, to: <http://www.regulations.gov>. Do not submit confidential business information, trade secret information, or other sensitive or protected information that you do not want to be available to the public. If furnished at all, such information should be submitted in writing.

Docket: For access to the docket to read background documents or comments received, go to: <http://www.regulations.gov>, and insert the docket number, CPSC-2017-XXXX, into the “Search” box, and follow the prompts.

FOR FURTHER INFORMATION CONTACT: Celestine T. Kish, Project Manager, Directorate for Engineering Sciences, U.S. Consumer Product Safety Commission, 5 Research Place, Rockville, MD 20850; telephone: (301) 987-2547; email: ckish@cpsc.gov.

SUPPLEMENTARY INFORMATION:

I. Background and Statutory Authority

The CPSIA was enacted on August 14, 2008. Section 104(b) of the CPSIA requires the Commission to: (1) examine and assess the effectiveness of voluntary consumer product safety standards for durable infant or toddler products, in consultation with representatives of consumer groups, juvenile product manufacturers, and independent child product engineers and experts; and (2) promulgate consumer product safety standards for durable infant or toddler products. Standards issued under section 104 are to be “substantially the same as” the applicable voluntary standards, or more stringent than the voluntary standard if the Commission concludes that more stringent requirements would further reduce the risk of injury associated with the product.

Section 104(f)(1) of the CPSIA defines the term “durable infant or toddler product” as “a durable product intended for use, or that may be reasonably expected to be used, by children under the age of 5 years.” Section 104(f)(2)(C) of the CPSIA specifically identifies “booster chairs” as a durable infant or toddler product.

Pursuant to section 104(b)(1)(A) of the CPSIA, the Commission consulted with manufacturers, retailers, trade organizations, laboratories, consumer advocacy groups, consultants, and members of the public in the development of this notice of proposed rulemaking (NPR), largely through the ASTM process.

Based on a briefing package prepared by CPSC staff, the proposed rule would incorporate by reference the most recent booster seat voluntary standard developed by ASTM

International, ASTM F2640-17^{e1}, *Standard Consumer Safety Specification for Booster Seats*, without modification. [\[INSERT LINK TO BRIEFING PACKAGE\]](#) If finalized, the ASTM standard would be a mandatory safety rule under the Consumer Product Safety Act (CPSA).

The testing and certification requirements of section 14(a) of the CPSA apply to the standards promulgated under section 104 of the CPSIA. Section 14(a)(3) of the CPSA requires the Commission to publish an NOR for the accreditation of third party conformity assessment bodies (test laboratories) to assess conformity with a children’s product safety rule to which a children’s product is subject. The proposed rule for booster seats, if issued as a final rule, would be a children’s product safety rule that requires the issuance of an NOR. To meet the requirement that the Commission issue an NOR for the booster seats standard, this NPR also proposes to amend 16 CFR part 1112 to include 16 CFR part 1237, the CFR section where the booster seat standard will be codified if the standard becomes final.

II. Product Information

A. Definition of “Booster Seat”

ASTM F2640-17^{e1} defines a “booster seat” as “a juvenile chair, which is placed on an adult chair to elevate a child to standard dining table height. The booster seat is made for the purpose of containing a child, up to 5 years of age, and normally for the purposes of feeding or eating. A booster seat may be height adjustable and include a reclined position.” Booster seats may be constructed from a wide variety of materials, including wood, plastic, fabric, metal, and/or foam. Most booster seats, notably those intended for home use, have removable trays, allowing a table to be used as an alternative eating surface. Some booster seats are intended to double as floor seats for toddlers, and others are high chair/booster seat combination products.

The ASTM standard covers combination products when they are in their booster seat configuration.

Several suppliers produce booster seats that are designed specifically for use in restaurants. These suppliers sell their “food-service” booster seats directly to restaurants or through restaurant supply companies; however, consumers may purchase these products directly, for example online through third parties such as Amazon.com. Consequently, these food-service booster seats may also be found in homes. Furthermore, consumers use these food-service booster seats in establishments open to the public. ASTM F2640-17^{ε1} broadly defines booster seats as “a juvenile chair, which is placed on an adult chair to elevate a child to standard dining table height.” There is no exclusion for food-service booster seats and ASTM subcommittee members have stated in several subcommittee meetings that food-service booster seats are included in the standard.

The standard does *not* cover car booster seats, which are also sometimes referred to as “booster seats.”

B. Booster Seat Means of Attachment to Adult Chairs

Currently, booster seats use a variety of methods to secure the booster on an adult chair; most employ a method of attachment, such as straps or suction, to attach to an adult chair. However, a few booster seats rely on the occupant’s weight (along with anti-skid bottoms or grip feet to minimize slippage by means of friction) to secure the booster seat onto an adult chair. As discussed below in section VI.A., not all methods of securing a booster seat to an adult chair comply with the attachment requirements in ASTM F2640-17^{ε1}.

III. Incident Data

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The Commission is aware of a total of 867 incidents (2 fatal, 865 nonfatal) related to booster seats, reported to have occurred between January 1, 2008 and September 30, 2016. Information on 83 percent of these incidents was based on retailer and manufacturer reports submitted through the CPSC's "Retailer Reporting Program." Various sources, such as hotlines, Internet reports, newspaper clippings, medical examiners, and other state and local authorities provided the CPSC with the remaining incident reports. Because reporting is ongoing, the number of reported fatalities, nonfatal injuries, and non-injury incidents may change in the future.

A. Fatalities

CPSC has reports of two fatalities associated with the use of a booster seat:

- In one incident, a 22-month-old female, sitting on a booster seat attached to an adult chair, pushed off from the table and tipped the adult chair backwards into a glass panel of a china cabinet behind her. The cause of death was listed as "exsanguination due to hemorrhage from incised wound."
- In the other incident, a 4-year-old male fell from a booster seat to the floor; he seemed uninjured at the time, but later that evening when riding his bike, the child fell, became unresponsive, and later died. The cause of death was multiple blunt force trauma.

B. Nonfatalities

CPSC has reports of 146 booster seat nonfatal injury incidents occurring between January 1, 2008 and September 30, 2016. Among the incidents with age information available, a majority of the incidents involved children 18 months and under. The severity of the injury types among the 146 reported injuries were as follows:

- Four children required a hospital admission. The injuries were skull fractures, concussions, and other head injuries.
- Another 22 children were treated and released from a hospital emergency department (ED) for injuries resulting mostly from falls.
- The remaining incidents primarily involved contusions, abrasions, and lacerations, due to falls or entrapment of limbs/extremities.

The remaining 719 non-injury incident reports specified that no injury had occurred or provided no information about any injury. However, many of the descriptions indicated the potential for a serious injury or even death.

C. Hazard Pattern Identification

CPSC staff considered all 867 reported incidents to identify hazard patterns associated with booster seats; subsequently, staff considered the hazard patterns when reviewing the adequacy of ASTM F2640-17^{e1}. CPSC staff identified the following hazard patterns associated with booster seats:

1. **Restraint/Attachment Problems (37%):** 317 incidents involved the mechanism for attaching a booster seat to an adult chair, or the restraint system that contains the child within the booster seat. Issues with the attachment mechanism included anchor buckles/clasps/straps breaking, tearing, fraying, detaching or releasing. Restraint-system problems included: buckles/prongs breaking, jamming, releasing too easily, or separating from straps; straps tearing or fraying, pinching, or coming undone; and general inadequacy or ineffectiveness of restraints in containing the child in place. In 18 incident reports, it was not clear from the report if the buckle or strap

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referred to in the report meant the restraint or the attachment system. In eight of the incident reports, both systems were reported to have failed. Thirty-seven injuries are included in this category, of which seven were treated at a hospital ED.

2. **Seat-Related Issues** (29%): 254 incidents involved seat-related issues.

These incidents included failure of the lock/latch that controls the seat-recline function; seat pads tearing, cracking, and/or peeling; the seat back detaching altogether; seat height adjustment lock/latch failure; and seat detachment from the base available for certain models. Twenty-one injuries are included in this category, two resulting in hospitalizations and five of which were ED-treated injuries.

3. **Tray-Related Issues** (20%): 171 incidents involved issues relating to booster seat trays.

These incidents included tray paint finish peeling off, trays failing to lock/stay locked, trays with sharp protrusions on the underside, trays too tight/difficult to release, and trays pinching fingers. These incidents also included complaints about broken toy-accessories, which are usually attached to the tray (or tray-insert). Thirty-six injuries are included in this category, including one that required ED treatment.

4. **Design Problems** (4%): 33 incidents involved a potential entrapment hazard

due to the design of the booster seat. Most of these incidents involved limbs, fingers, and toes entrapped in spaces/openings between the armrest and seat back/tray, between passive crotch restraint bar and seat/tray, between tray

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inserts, or in toy accessories. Fifteen injuries were included in this category, two requiring ED treatment.

5. **Stability-Related Issues** (4%): 31 incidents involved issues of booster seat stability. Most of these incidents (27 of 31) concerned the adult chair to which the booster seat was attached tipping back or over. Some of these incidents resulted from the child pushing back from the table or counter. Twenty-two injuries (including two hospitalizations and five ED-treated injuries) and one fatality are included in this category.
6. **Armrest Problems** (3%): 24 incidents involved booster seat armrests cracking or breaking. In a few cases, the armrest reportedly arrived broken inside the booster seat packaging. One injury is included in this category.
7. **Miscellaneous Product Issues** (2%): 16 miscellaneous incidents involved a variety of product-related issues, including unclear assembly instructions, poor quality construction, odor, rough surface, breakage, or loose hardware at unspecified sites. Nine injuries were included in this category, including two ED-treated injuries.
8. **Combination of Multiple Issues** (2%): 17 incidents involved a combination of the above-listed product hazards. Four injuries were included in this category.
9. **Unknown Issues** (< 0.5%): Four incidents involved unknown issues. In these incidents, insufficient information was available for CPSC staff to determine how the incidents occurred. In one incident in this category, a

fatality, there were confounding factors reported that likely contributed to the death. One other injury was reported in this category.

D. Product Recalls

Compliance staff reviewed recalls of booster seats that occurred from January 1, 2008 to September 30, 2016. During that time, there was one consumer-level recall involving booster seats. The recall was conducted to resolve a fall hazard caused when the stitching on the booster seat's restraint straps loosened, allowing the straps to separate from the seat and the child to fall out of the seat.

IV. International Standards for Booster Seats

CPSC staff identified one international standard—BS EN16120 Child Use and Care Articles – Chair Mounted Seat—intended for a similar product category. EN16120 addresses products for a more narrow age range of children (up to 36 months); whereas, F2640-17^{ε1} includes products intended for children up to 5 years of age. Some individual requirements in the EN16120 standard are more stringent than ASTM F2640-17^{ε1}. For example, EN16120 contains requirements for head entrapment, lateral protection, surface chemicals, cords/ribbons, material shrinkage, packaging film, and monofilament threads. Conversely, some individual requirements in F2640-17^{ε1} are more stringent than those found in EN 16120; ASTM F2640-17^{ε1} includes requirements for tray performance and toy accessories. CPSC staff believes that the current ASTM standard, ASTM F2640-17^{ε1}, is the most comprehensive of the standards to address the identified product hazards.

V. Voluntary Standard–ASTM F2640

A. History of ASTM F2640

The voluntary standard for booster seats was first approved and published in 2007, as ASTM F2640-07, *Standard Consumer Safety Specification for Booster Seats*. ASTM has revised the voluntary standard nine times since then. The current version of the standard, ASTM F2640-17^{ε1} was approved on March 01, 2017 and published in March 2017.

B. Description of the Current Voluntary Standard–ASTM F3118-17^{ε1}

ASTM F2640-17^{ε1} includes the following key provisions: scope, terminology, general requirements, performance requirements, test methods, marking and labeling, and instructional literature.

Scope. This section states the scope of the standard, detailing what constitutes a booster seat. As stated in section II.A. of this preamble, the Scope section describes a booster seat as “a juvenile chair, which is placed on an adult chair to elevate a child to standard dining table height.” The scope section further specifies appropriate ages for children using a booster seat, stating that a “booster seat is made for the purpose of containing a child, up to 5 years of age, and normally for the purposes of feeding or eating.”

Terminology. This section provides definitions of terms specific to this standard.

General Requirements. This section addresses numerous hazards with several general requirements; most are also found in the other ASTM juvenile product standards. The general requirements included in this section are:

- Sharp edges or points;
- Small parts;
- Wood parts;

- Lead in paint;
- Scissoring, shearing, and pinching;
- Openings;
- Exposed coil springs;
- Protective components;
- Labeling; and
- Toys.

Performance Requirements and Test Methods. These sections contain performance requirements specific to booster seats (discussed here) and the test methods that must be used to assess conformity with such requirements.

- **Tray impact test:** This test assesses the tray’s resistance to breaking into small pieces or creating sharp points/edges when dropped from a specified height.
- **Tray engagement test:** This test assesses the tray’s ability to remain engaged to the booster seat when subjected to a specified force horizontally and vertically.
- **Static load test:** This test assesses whether the booster seat can support its maximum recommended weight, by gradually applying a static load on the center of the seating surface for a specified amount of time.
- **Restraint system test:** This test assesses whether the restraint system can secure a child in the manufacturer’s recommended-use positions.
- **Attachment test:** This test specifies that a booster seat must have a means of attaching a booster seat to an adult chair and assesses the booster seat’s ability to remain fastened to the adult chair when force is applied.

- **Structural integrity:** This requirement assesses the durability of the locking/latching devices to prevent folding or adjustment of the booster seat.
- **Maximum booster seat dimensions:** This requirement assesses how large a booster seat can be in relation to the adult chair dimensions specified on the booster seat's packaging.

Marking and Labeling. This section contains various requirements relating to warnings, labeling, and required markings for booster seats. This section prescribes various substance, format, and prominence requirements for such information.

Instructional Literature. This section requires that easily readable and understandable instructions be provided with booster seats. Additionally, the section contains requirements relating to instructional literature contents and format.

VI. Assessment of the Voluntary Standard ASTM F2640-17^{e1}

CPSC staff identified 867 incidents (including two fatalities) related to the use of booster seats. CPSC staff examined the incident data, identified hazard patterns in the data, and worked with ASTM to develop the performance requirements in ASTM F2640. The incident data and identified hazard patterns served as the basis for the development of ASTM F2640-17^{e1} by ASTM with CPSC staff support throughout the process.

CPSC believes that the current voluntary standard, ASTM F2640-17^{e1}, addresses the primary hazard patterns identified in the incident data. The following section discusses how each of the identified product-related issues or hazard patterns listed in section III.C. of this preamble is addressed by the current voluntary standard:

A. Restraint/Attachment Problems

Restraint system and attachment problems included buckles/prongs breaking, jamming, releasing too easily, or separating from straps; straps tearing or fraying, pinching, or coming

undone; and inadequacy or ineffectiveness of restraints in containing the child in place, Similarly, complaints about the seat attachment system involved anchor buckles/clasps/straps breaking, tearing, fraying, detaching, or releasing. CPSC evaluated the attachment and restraint system tests in ASTM F2640-17^{e1}, and believes that these tests adequately address this hazard.

Section 6.5 of ASTM F2640-17^{e1} requires that a booster seat must have a means of “attaching” to an adult chair, and be able to withstand a specified force without becoming detached from the adult chair. Booster seats may employ several methods to secure to an adult chair, including straps, suction, and anti-skid bottoms or grip feet that minimize slippage on the chair by means of friction. However, because “grip feet” and “friction bottoms” do not actually *attach* (*i.e.*, fasten) the booster seat to an adult chair, a majority of ASTM subcommittee members, as well as CPSC staff, does not consider these means of *securing* booster seats to an adult chair to be a means of *attachment* that Section 6.5 requires. Conversely, because suction physically fastens the booster seat to an adult chair, CPSC staff and a majority of ASTM subcommittee members consider suction to be a means of attachment under Section 6.5 of the current ASTM standard; nevertheless, any booster seat using suction as a means of attachment must still pass the attachment test to be compliant.

Thus, promulgating the requirements of ASTM F2640-17^{e1} as a mandatory standard might result in the following: (1) booster seats that currently use grip feet/friction bottoms to secure the booster seat to the surface upon which it sits (disproportionately used on food-service booster seats) would not comply with the mandatory standard due to their lack of a means of attachment; and (2) booster seats that currently use suction as a means of attachment may not pass the mandatory standard’s attachment test. CPSC requests comments on the effect of ASTM F2640-17^{e1}’s attachment requirements becoming mandatory on booster seats that currently use

grip feet/friction bottoms to secure the booster to the surface upon which it sits. Furthermore, CPSC requests comments on whether a suction attachment method is capable of passing ASTM F2640-17^{e1}'s attachment test.

B. Seat-Related Issues

Seat-related issues included failure of the lock/latch that controls the seat-recline function; seat pads tearing, cracking, and/or peeling; seat backs detaching altogether; seat height adjustment lock/latch failures; and seat detachment from the base that is available for certain models. CPSC evaluated the static load and dynamic booster seat tests in ASTM F2640-17^{e1}, and believes that these tests adequately address this hazard.

C. Tray-Related Issues

Tray-related issues included trays with paint finish peeling off, trays failing to lock/stay locked, trays with sharp protrusions on the underside, trays that were too tight/difficult to release, and trays pinching fingers. Upon evaluation, CPSC believes that the general requirements section of F2640-17^{e1} adequately addresses peeling paint, sharp protrusions, and pinching hazards, and the standard's tray engagement test adequately address the tray locking failures.

D. Design Problems

Booster seat design problems resulted in limbs, fingers, and toes entrapped in spaces/openings between the armrest and seat back/tray, between passive crotch restraint bar and seat/tray, between tray inserts, or in toy accessories. CPSC evaluated the general requirements of ASTM 2640-17^{e1} (namely requirements relating to scissoring, shearing, and pinching, openings, and toys) and believes that the ASTM standard adequately addresses this hazard.

E. Stability-Related Issues

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Stability-related incidents included instances where the adult chair to which the booster seat was attached, tipped back or tipped over. Addressing the stability of the booster seat while attached to an adult chair is difficult in a standard for booster seats because stability is dependent on the adult chair. The ASTM booster seat subcommittee and CPSC staff worked diligently to find an effective requirement to adequately address stability without specifying requirements for the adult chair. Although ASTM F2640-17^{e1} does not contain a performance requirement to address this hazard, it does contain a labeling requirement, whereby booster seats must contain a cautionary statement: “Never allow a child to push away from table.” Moreover, ASTM F2640-17^{e1} requires a booster seat to identify on the booster seat packaging the size of adult chair on which the booster seat can fit, thereby allowing consumers to make a more informed purchasing choice.

F. Armrest Problems

Armrest problems included booster seat armrests cracking, and in a few cases, the armrest arriving to the consumer broken in the packaging. CPSC evaluated the static and dynamic load tests contained in ASTM F2640-17^{e1}, and believes that those tests adequately address armrest-related hazards.

G. Miscellaneous Product-Related Issues

Miscellaneous product-related issues included unclear assembly instructions, poor quality construction, odor, rough surface, breakage, or loose hardware at unspecified sites. CPSC evaluated the general requirements section, as well as the instructional literature requirements of ASTM F2640-17^{e1}, and believes that those requirements adequately address this hazard.

VII. Proposed Standard for Booster Seats

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As discussed in the previous section, the Commission concludes that ASTM F2640-17^{e1} adequately addresses the hazards associated with booster seats. Thus, the Commission proposes to incorporate by reference ASTM F2640-17^{e1}, without modification, into the final rule.

VIII. Proposed Amendment to 16 CFR part 1112 to Include NOR for Booster Seats

The CPSA establishes certain requirements for product certification and testing. Products subject to a consumer product safety rule under the CPSA, or to a similar rule, ban, standard or regulation under any other act enforced by the Commission, must be certified as complying with all applicable CPSC-enforced requirements. 15 U.S.C. 2063(a). Certification of children's products subject to a children's product safety rule must be based on testing conducted by a CPSC-accepted third party conformity assessment body. *Id.* 2063(a)(2). The Commission must publish an NOR for the accreditation of third party conformity assessment bodies to assess conformity with a children's product safety rule to which a children's product is subject. *Id.* 2063(a)(3). Thus, the proposed rule for 16 CFR part 1237, *Standard Consumer Safety Specification for Booster Seats*, if issued as a final rule, would be a children's product safety rule that requires the issuance of an NOR.

The Commission published a final rule, *Requirements Pertaining to Third Party Conformity Assessment Bodies*, 78 FR 15836 (March 12, 2013), codified at 16 CFR part 1112 (part 1112) and effective on June 10, 2013, which establishes requirements for accreditation of third party conformity assessment bodies to test for conformity with a children's product safety rule in accordance with section 14(a)(2) of the CPSA. Part 1112 also codifies all of the NORs issued previously by the Commission.

All new NORs for new children's product safety rules, such as the booster seats standard, require an amendment to part 1112. To meet the requirement that the Commission issue an NOR

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for the booster seats standard, as part of this NPR, the Commission proposes to amend the existing rule that codifies the list of all NORs issued by the Commission to add booster seats to the list of children's product safety rules for which the CPSC has issued an NOR.

Test laboratories applying for acceptance as a CPSC-accepted third party conformity assessment body to test to the new standard for booster seats would be required to meet the third party conformity assessment body accreditation requirements in part 1112. When a laboratory meets the requirements as a CPSC-accepted third party conformity assessment body, the laboratory can apply to the CPSC to have 16 CFR part 1237, *Standard Consumer Safety Specification for Booster Seats*, included in the laboratory's scope of accreditation of CPSC safety rules listed for the laboratory on the CPSC website at: www.cpsc.gov/labsearch.

Incorporation by Reference

The Commission proposes to incorporate by reference ASTM F2640-17^{e1}, without modification. The Office of the Federal Register (OFR) has regulations concerning incorporation by reference. 1 CFR part 51. For a proposed rule, agencies must discuss in the preamble to the NPR ways that the materials the agency proposes to incorporate by reference are reasonably available to interested persons or how the agency worked to make the materials reasonably available. In addition, the preamble to the proposed rule must summarize the material. 1 CFR 51.5(a).

In accordance with the OFR's requirements, section V.B. of this preamble summarizes the provisions of ASTM F2640-17^{e1} that the Commission proposes to incorporate by reference. ASTM F2640-17^{e1} is copyrighted. By permission of ASTM, the standard can be viewed as a read-only document during the comment period on this NPR, at: <http://www.astm.org/cpsc.htm>. Interested persons may also purchase a copy of ASTM F2640-17^{e1} from ASTM International,

100 Bar Harbor Drive, P.O. Box 0700, West Conshohocken, PA 19428;

<http://www.astm.org/cpsc.htm>. One may also inspect a copy at CPSC's Office of the Secretary, U.S. Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814, telephone 301-504-7923.

IX. Effective Date

The Administrative Procedure Act (APA) generally requires that the effective date of a rule be at least 30 days after publication of the final rule. 5 U.S.C. 553(d). Although a 6-month effective date has been adopted for several other section 104 rules, the Commission is proposing an effective date of 12 months after publication of the final rule in the Federal Register to allow booster seat manufacturers additional time to bring their products into compliance after the final rule is issued. CPSC was unable to rule out a significant economic impact for some booster seat importers and small firms, and a 12-month effective date will allow additional time for manufacturers and importers to make necessary changes to bring their booster seats into conformance with the ASTM F2640-17^{e1} and arrange for third party testing.

X. Regulatory Flexibility Act

A. Introduction

The Regulatory Flexibility Act (RFA) requires that agencies review a proposed rule for the rule's potential economic impact on small entities, including small businesses. Section 603 of the RFA generally requires that agencies prepare an initial regulatory flexibility analysis (IRFA) and make the analysis available to the public for comment when the agency publishes an NPR. 5 U.S.C. 603. Section 605 of the RFA provides that an IRFA is not required if the agency certifies that the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. Staff could not rule out a significant economic impact on 20 of the 29 small

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suppliers of booster seats to the U.S. market. Accordingly, staff prepared an IRFA and poses several questions for public comment to help staff assess the rule's potential impact on small businesses.

The IRFA must describe the impact of the proposed rule on small entities and identify significant alternatives that accomplish the statutory objectives and minimize any significant economic impact of the proposed rule on small entities. Specifically, the IRFA must contain:

- a description of the reasons why action by the agency is being considered;
- a succinct statement of the objectives of, and legal basis for, the proposed rule;
- a description of, and where feasible, an estimate of the number of small entities to which the proposed rule will apply;
- a description of the projected reporting, recordkeeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities subject to the requirements and the type of professional skills necessary for the preparation of reports or records; and
- identification, to the extent possible, of all relevant federal rules that may duplicate, overlap, or conflict with the proposed rule; and

In addition, the IRFA must describe any significant alternatives to the proposed rule that accomplish the stated objectives of applicable statutes and minimize any significant economic impact of the proposed rule on small entities.

B. Market Description

The Commission has identified 49 firms supplying booster seats to the U.S. market, 39 that supply home-use booster seats, and 10 that supply food-service booster seats. Forty-four of

these firms (28 manufacturers, 15 importers, and one supplier with an unknown supply source) are domestic. The remaining five firms are foreign.

C. Reason for Agency Action and Legal Basis for Proposed Rule

As discussed in section I. of this preamble, section 104 of the CPSIA requires the CPSC to promulgate consumer product safety standards for durable infant or toddler products that are substantially the same as, or more stringent than, the relevant voluntary standard. Section 104(f)(2)(C) of the CPSIA specifically identifies “booster chairs” as a durable infant or toddler product for which the Commission shall promulgate a consumer product safety standard.

D. Impact of Proposed 16 CFR Part 1237 on Small Businesses

CPSC staff is aware of 49 firms currently marketing booster seats in the United States, 44 that are domestic. Under U.S. Small Business Administration (SBA) guidelines, a manufacturer is considered small if it has 500 or fewer employees; and importers and wholesalers are considered small if they have 100 or fewer employees. Staff limited its analysis to domestic firms because SBA guidelines and definitions pertain to U.S.-based entities. Based on these guidelines, 29 of the 44 domestic firms are small—18 manufacturers, 10 importers, and one firm with an unknown supply source. Additional unknown small domestic booster seat suppliers may be operating in the U.S. market.

1. Small Manufacturers

i. Small Manufacturers with Compliant Booster Seats

Of the 18 small manufacturers, eight produce booster seats that comply with ASTM F2640-14, the voluntary standard currently in effect for testing purposes under the Juvenile Product Manufacturers Association (JPMA) certification program. In general, it is expected that the small manufacturers whose booster seats already comply with the current voluntary standard

will remain compliant with the voluntary standard as it evolves, because these small manufacturers follow, and in some cases, participate actively in the standard development process. ASTM F2640-17^{e1} has already been published and will be in effect by the time the mandatory standard becomes final. Moreover, history indicates that these firms are likely to be in compliance by the time the mandatory standard takes effect.

All but one of these eight already-compliant firms supply home-use booster seats that use straps/belts as an attachment method. The remaining small manufacturer uses suction to attach their home-use booster seat to adult chairs. It is unclear whether the suction-type booster seats would pass the attachment test in ASTM F2640-17^{e1} without modifications. Several participants in the ASTM voluntary standards development process, including one of the supplier representatives contacted by CPSC staff, believes that belts and/or straps will be required to pass the attachment test. If modifications were required, the impact could be significant. The firm could undertake efforts to improve their existing suction system, or they could modify the chair to use strap/belt attachment system, which would involve creating new product molds, as well as the cost of the belts and buckles. Several of the supplier representatives staff contacted believe that a complete redesign for booster seats costs approximately \$500,000. Although it is unlikely that the cost of addressing the attachment performance requirement would be that high, any change that involves redesign can be expensive, and the affected firm likely has relatively low sales revenue. Therefore, staff cannot rule out a significant impact on this firm.

ii. Small Manufacturers with Noncompliant Booster Seats

Ten small manufacturers produce booster seats that do not comply with the voluntary standard; half are home-use booster seat manufacturers, and the other half are food-service booster seat manufacturers. Staff cannot rule out a significant economic impact for any of these

small manufacturers. The booster seats manufactured by all 10 firms are likely to require modifications, some of which may be significant, to meet the requirements of the voluntary standard. For example, eight of the 10 firms use attachment methods other than belts or straps, such as suction or friction, on one or more of their booster seat products. Six of those firms supply plastic or foam booster seats, which are likely to be more expensive to modify than wooden booster seats. In addition, some plastic booster seats may require a complete redesign to comply with the warning label requirements, even if sufficient space is available on the product to display the labels.

Staff cannot determine the extent and cost of the changes required for compliance of these manufacturers' booster seat products; therefore, staff cannot rule out a significant economic impact on these businesses. However, based on the revenue data available for these firms, the impact is not likely to be significant for two of the firms, unless modifications that cost more than \$200,000 are required. The impact on five of the firms could be significant, even with relatively minor changes (*i.e.*, less than \$40,000). Without additional information, staff cannot determine the impact on the remaining three firms.

The Commission requests information on the changes that may be required to meet the voluntary standard, ASTM F2640-17^{e1} and, in particular, the time and cost associated with any necessary redesign or retrofitting. The Commission also requests information on the degree to which modifications required as a result of ASTM F2640-17^{e1}'s attachment test may add to a firm's costs.

iii. Third Party Testing Costs for Small Manufacturers

Under section 14 of the CPSA, once the requirements of ASTM F2640-17^{e1} are effective, all manufacturers will be subject to the third party testing and certification requirements under

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the 1107 rule. Third party testing will include any physical and mechanical test requirements specified in the final booster seat rule. Manufacturers and importers should already be conducting required lead testing for booster seats. Third party testing costs are in addition to the direct costs of meeting the requirements of the booster seat standard.

Eight of the 18 small booster seats manufacturers are already testing their products, although not necessarily by a third party, to verify compliance with the ASTM standard. For these manufacturers, the impact on testing costs will be limited to the difference between the cost of third party tests and the cost of current testing regimes. CPSC staff contacted small booster seat manufacturers. They estimate that third party testing booster seats to the ASTM voluntary standard would cost about \$500 to \$1,000 per model sample. For the eight small manufacturers that are already testing, the incremental costs are unlikely to be economically significant.

For the 10 small manufacturers that are not currently testing their products to verify compliance with the ASTM standard, the impact of third party testing could result in significant costs for three firms. Although CPSC does not currently know how many samples will be needed to meet the “high degree of assurance” criterion required in the 1107 rule, testing costs could exceed one percent of gross revenue for two of these firms, if five samples are needed to be tested (assuming high-end testing costs of \$1,000 per model sample). Revenue information was not available for the third firm, but that firm’s revenue appears to be very small. Accordingly, that firm might be significantly affected by third party testing costs.

The Commission welcomes comments regarding overall testing costs and incremental costs due to third party testing (*i.e.*, how much does moving from a voluntary to a mandatory third party testing regime add to testing costs, in total, and on a per-test basis). In addition, the

Commission seeks comments on the number of booster seat units that typically need to be tested to provide a “high degree of assurance.”

2. *Small Importers*

CPSC does not believe that any of the 10 small importers of booster seats currently complies with the ASTM standard. There is insufficient information to rule out a significant impact for any of the 10 small importers supplying noncompliant booster seats. Whether there will be a significant economic impact will depend upon the extent of the changes required to comply and the responses of importers’ supplying firms. Any increase in production costs experienced by their suppliers from changes made to meet the mandatory standard may be passed on to these importers. Costs would include expenses associated with coming into compliance with the voluntary standard, as well as costs associated with the attachment test (all of the home-use booster seats supplied by these firms already use straps/belts, but neither of the food-service suppliers appears to do so, and therefore, they will likely need to make changes to come into compliance).

Four of the 10 importers with noncompliant booster seats (two import food-service booster seats, and two import home-use booster seats) do not appear to have direct ties to their product suppliers. These firms may opt to switch to alternative suppliers (or, in some cases, alternative products), rather than bear the cost of complying with the standard. Although it is unclear whether the costs associated with changing suppliers would be significant for these firms.

The remaining six firms (all of which import home-use booster seats) are directly tied to their foreign suppliers, and therefore, finding an alternative supply source would not be a viable alternative. The foreign suppliers of these firms, however, may have an incentive to work with

their U.S. subsidiaries/distributors to maintain an American market presence. It is also possible that these firms may discontinue the sale of booster seats altogether because booster seats are not a large component of their product lines. CPSC staff was unable to determine whether exiting the booster seats market would generate significant economic impacts due to the lack of sales revenue for booster seats, as well as the lack of revenue data for most of these firms.

As with manufacturers, importers will be subject to third party testing and certification requirements; consequently, importers will be subject to costs similar to those of manufacturers, if their supplying foreign firm(s) does not perform third party testing. Moving to third party certification for the requirements of the proposed rule is unlikely to result in significant costs for the four small importers for whom revenue data are available. However, there was no revenue data available for the remaining six small importers; accordingly, CPSC had no basis for examining the size of the impact on those firms.

3. Summary

In summary, based upon current information, CPSC cannot rule out a significant economic impact for 20 of the 29 booster seat firms operating in the U.S. market. The 12-month proposed effective date would help to spread costs over a longer time-frame.

4. Alternatives

One alternative is available to minimize the economic impact on small entities supplying booster seats while also meeting the statutory objectives. The Commission could allow a later effective date than proposed.

The Commission is proposing a 12-month effective date to allow booster seat manufacturers additional time (beyond the more usual 6-month effective date) to bring their products into compliance after the final rule is issued. The Commission believes that the

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proposed 12-month effective date would allow firms that may not be aware of the ASTM voluntary standard, or may believe that their product falls outside the scope of the standard, additional time to make this determination and thereafter, bring their products into compliance. The Commission could further reduce the proposed rule's impact on small businesses by setting an effective date later than 12 months after the final rule is issued. A later effective date would reduce the economic impact on firms in two ways. First firms would be less likely to experience a lapse in production/importation, which could result if they are unable to bring their products into compliance and certify compliance based on third party tests within the required timeframe. Additionally, firms could spread the costs of developing compliant products over a longer time period, thereby reducing their annual costs, as well as the present value of their total costs (*i.e.*, they could time their spending to better accommodate their individual circumstances).

E. Impact of Proposed 16 CFR Part 1112 Amendment on Small Businesses

This proposed rule also would amend part 1112 to add booster seats to the list of children's products for which the Commission has issued an NOR. As required by the RFA, staff conducted a Final Regulatory Flexibility Analysis (FRFA) when the Commission issued the part 1112 rule (78 FR 15836, 15855-58). The FRFA concluded that the accreditation requirements would not have a significant adverse impact on a substantial number of small testing laboratories because no requirements were imposed on test laboratories that did not intend to provide third party testing services. The only test laboratories that were expected to provide such services were those that anticipated receiving sufficient revenue from the mandated testing to justify accepting the requirements as a business decision.

Based on similar reasoning, amending 16 CFR part 1112 to include the NOR for the booster seat product standard will not have a significant adverse impact on small test

laboratories. Moreover, based upon the number of test laboratories in the United States that have applied for CPSC acceptance of accreditation to test for conformance to other mandatory juvenile product standards, we expect that only a few test laboratories will seek CPSC acceptance of their accreditation to test for conformance with the booster seats standard. Most of these test laboratories will have already been accredited to test for conformance to other mandatory juvenile product standards, and the only costs to them would be the cost of adding the booster seat standard to their scope of accreditation. Consequently, the Commission certifies that the proposed NOR amending 16 CFR part 1112 to include the infant booster seat standard will not have a significant impact on a substantial number of small entities.

XI. Environmental Considerations

The Commission's regulations address whether the agency is required to prepare an environmental assessment or an environmental impact statement. Under these regulations, certain categories of CPSC actions normally have "little or no potential for affecting the human environment," and therefore, they do not require an environmental assessment or an environmental impact statement. Safety standards providing requirements for products come under this categorical exclusion. 16 CFR 1021.5(c)(1). The proposed rule falls within the categorical exclusion.

XII. Paperwork Reduction Act

This proposed rule contains information collection requirements that are subject to public comment and review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3521). In this document, pursuant to 44 U.S.C. 3507(a)(1)(D), we set forth:

- a title for the collection of information;

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- a summary of the collection of information;
- a brief description of the need for the information and the proposed use of the information;
- a description of the likely respondents and proposed frequency of response to the collection of information;
- an estimate of the burden that shall result from the collection of information; and
- notice that comments may be submitted to the OMB.

Title: Safety Standard for Booster Seats.

Description: The proposed rule would require each booster seat to comply with ASTM F2640-17^{e1}, *Standard Consumer Safety Specification for Booster Seats*. Sections 8 and 9 of ASTM F2640-17^{e1} contain requirements for marking, labeling, and instructional literature. These requirements fall within the definition of “collection of information,” as defined in 44 U.S.C. 3502(3).

Description of Respondents: Persons who manufacture or import booster seats.

Estimated Burden: We estimate the burden of this collection of information as follows:

Table 1 – Estimated Annual Reporting Burden

16 CFR Section	Number of Respondents	Frequency of Responses	Total Annual Responses	Hours per Response	Total Burden Hours
1237	49	2	98	1	98

Our estimate is based on the following:

Forty-nine known entities supply booster seats to the U.S. market and may need to make some modifications to their existing warning labels. We estimate that the time required to make these modifications is about 1 hour per model. Based on an evaluation of supplier product lines,

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each entity supplies an average of 2 models of booster seats; therefore, the estimated burden associated with labels is 1 hour per model x 49 entities x 2 models per entity = 98 hours. We estimate the hourly compensation for the time required to create and update labels is \$33.53 (U.S. Bureau of Labor Statistics, “Employer Costs for Employee Compensation,” December 2016, Table 9, total compensation for all sales and office workers in goods-producing private industries: <http://www.bls.gov/ncs/>). Therefore, the estimated annual cost to industry associated with the labeling requirements is \$3,286 (\$33.53 per hour x 98 hours). No operating, maintenance, or capital costs are associated with the collection.

Section 9.1 of ASTM F2640-17^{e1} requires instructions to be supplied with the product. Under the OMB’s regulations (5 CFR 1320.3(b)(2)), the time, effort, and financial resources necessary to comply with a collection of information that would be incurred by persons in the “normal course of their activities” are excluded from a burden estimate, where an agency demonstrates that the disclosure activities required to comply are “usual and customary.” We are unaware of booster seats that generally require use instructions but lack such instructions. Therefore, we tentatively estimate that no burden hours are associated with section 9.1 of ASTM F2640-17^{e1}, because any burden associated with supplying instructions with booster seats would be “usual and customary” and not within the definition of “burden” under the OMB’s regulations.

Based on this analysis, the proposed standard for booster seats would impose a burden to industry of 98 hours at a cost of \$3,286 annually.

In compliance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), we have submitted the information collection requirements of this rule to the OMB for review. Interested persons are requested to submit comments regarding information collection by **INSERT DATE**

30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER], to the Office of Information and Regulatory Affairs, OMB (see the ADDRESSES section at the beginning of this notice).

Pursuant to 44 U.S.C. 3506(c)(2)(A), we invite comments on:

- whether the collection of information is necessary for the proper performance of the CPSC's functions, including whether the information will have practical utility;
- the accuracy of the CPSC's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;
- ways to enhance the quality, utility, and clarity of the information to be collected;
- ways to reduce the burden of the collection of information on respondents, including the use of automated collection techniques, when appropriate, and other forms of information technology; and
- the estimated burden hours associated with label modification, including any alternative estimates.

XIII. Preemption

Section 26(a) of the CPSA, 15 U.S.C. 2075(a), provides that when a consumer product safety standard is in effect and applies to a product, no state or political subdivision of a state may either establish or continue in effect a standard or regulation that prescribes requirements for the performance, composition, contents, design, finish, construction, packaging, or labeling of such product dealing with the same risk of injury unless the state requirement is identical to the federal standard. Section 26(c) of the CPSA also provides that states or political subdivisions of states may apply to the Commission for an exemption from this preemption under certain circumstances. Section 104(b) of the CPSIA refers to the rules to be issued under that section as

“consumer product safety rules.” Therefore, the preemption provision of section 26(a) of the CPSA would apply to a rule issued under section 104.

XIV. Request for Comments

This NPR begins a rulemaking proceeding under section 104(b) of the CPSIA to issue a consumer product safety standard for booster seats, and to amend part 1112 to add booster seats to the list of children’s product safety rules for which the CPSC has issued an NOR. We invite all interested persons to submit comments on any aspect of this proposal. In addition to requests for specific comments elsewhere in this NPR, the Commission requests comments on the differences between home-use and food-service booster seats and the ability of each type of booster seat to meet the requirements in the proposed booster seat standard, the proposed effective date, and the costs of compliance with, and testing to, the proposed booster seats standard. During the comment period, ASTM F2640-17^{e1}, *Standard Consumer Safety Specification for Booster Seats*, is available as a read-only document at:

<http://www.astm.org/cpsc.htm>.

Comments should be submitted in accordance with the instructions in the **ADDRESSES** section at the beginning of this notice.

List of Subjects

16 CFR Part 1112

Administrative practice and procedure, Audit, Consumer protection, Reporting and recordkeeping requirements, Third party conformity assessment body.

16 CFR Part 1237

Consumer protection, Imports, Incorporation by reference, Infants and children, Labeling, Law enforcement, and Toys.

For the reasons discussed in the preamble, the Commission proposes to amend Title 16 of the Code of Federal Regulations as follows:

PART 1112—REQUIREMENTS PERTAINING TO THIRD PARTY CONFORMITY ASSESSMENT BODIES

1. The authority citation for part 1112 continues to read as follows:

Authority: 15 U.S.C. 2063; Pub. L. 110-314, section 3, 122 Stat. 3016, 3017 (2008).

2. Amend § 1112.15 by adding paragraph (b)(47) to read as follows:

§ 1112.15 When can a third party conformity assessment body apply for CPSC acceptance for a particular CPSC rule and/or test method?

* * * * *

(b) * * *

(47) 16 CFR part 1237, Safety Standard for Booster Seats.

* * * * *

3. Add part 1237 to read as follows:

PART 1237-SAFETY STANDARD FOR BOOSTER SEATS

Sec.

1237.1 Scope.

1237.2 Requirements for booster seats.

Authority: Sec. 104, Pub. L. 110-314, 122 Stat. 3016 (August 14, 2008); Sec. 3, Pub. L.

112-28, 125 Stat. 273 (August 12, 2011).

§ 1237.1 Scope.

This part establishes a consumer product safety standard booster seats.

§ 1237.2 Requirements for booster seats.

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Each booster seat must comply with all applicable provisions of ASTM F2640-17^{e1}, Standard Consumer Safety Specification for Booster Seats (approved on March 1, 2017). The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy from ASTM International, 100 Bar Harbor Drive, P.O. Box 0700, West Conshohocken, PA 19428; <http://www.astm.org/cpsc.htm>. You may inspect a copy at the Office of the Secretary, U.S. Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814, telephone 301-504-7923, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Dated: _____

Todd A. Stevenson,
Secretary, Consumer Product Safety Commission



Staff Briefing Package

Draft Notice of Proposed Rulemaking for Booster Seats under the Danny Keysar Child Product Safety Notification Act

May 2017

Table of Contents

Briefing Memorandum	iii
TAB A: Booster Seats-Related Deaths, Injuries, and Potential Injuries; January 1, 2008 – September 30, 2016	15
TAB B: Engineering Assessment of ASTM F2640 Requirements for Booster Seats (CPSIA Section 104)	23
TAB C: Initial Regulatory Flexibility Analysis of the Staff-Recommended Proposed Standard for Booster Seats and the Accreditation Requirements for Conformity Assessment Bodies for Testing Conformance to the Booster Seat Standard.....	32

Briefing Memorandum



**UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
4330 EAST WEST HIGHWAY
BETHESDA, MARYLAND 20814**

Memorandum

This document has been electronically
approved and signed.

DATE: May 3, 2017

TO: The Commission
Todd A. Stevenson, Secretary

THROUGH: Mary T. Boyle, General Counsel

Patricia H. Adkins, Executive Director

DeWane Ray, Deputy Executive Director for Safety Operations

FROM: George A. Borlase, Ph.D., P.E., Assistant Executive Director
Office of Hazard Identification and Reduction

Celestine T. Kish, Project Manager
Division of Human Factors, Directorate for Engineering Sciences

SUBJECT: Notice of Proposed Rulemaking for Booster Seats

I. INTRODUCTION

Section 104 of the Consumer Product Safety Improvement Act of 2008 (CPSIA) is the Danny Keysar Child Product Safety Notification Act. This Act requires the U.S. Consumer Product Safety Commission (CPSC or Commission) to: (1) examine and assess voluntary safety standards for certain infant or toddler products, and (2) promulgate mandatory consumer product safety standards that are substantially the same as the voluntary standards or more stringent than the voluntary standards, if the Commission determines that more stringent standards would further reduce the risk of injury associated with these products. Section 104(f) of the CPSIA defines “durable infant or toddler products” as “durable products intended for use, or that may be reasonably expected to be used, by children under the age of 5 years.” The list of products in section 104(f) specifically includes booster seats.

Section 104 of the CPSIA also requires the Commission to consult with representatives of consumer groups, juvenile product manufacturers, and independent child product engineers and experts to examine and assess the effectiveness of the relevant voluntary standards. CPSC staff regularly participates in the juvenile products subcommittee meetings of ASTM International (ASTM). ASTM subcommittees consist of members who represent producers, users, consumers, government, and academia.¹ The consultation process for this rulemaking commenced when staff presented staff's incident data during the ASTM subcommittee meeting in fall 2015. Staff has been actively participating in the revisions to the standard to address the hazards reported in the data.

This briefing package pertains to products that are included within the scope of the current voluntary standard, ASTM F2640-17^{e1}, *Standard Consumer Safety Specification for Booster Seats*. Under the ASTM standard, "a booster seat is a juvenile chair, which is placed on an adult chair to elevate a child to standard dining table height. The booster seat is made for the purpose of containing a child, up to 5 years of age, and normally for the purposes of feeding or eating. A booster seat may be height adjustable and include a reclined position." The briefing package reviews the relevant incident data and assesses the standard's effectiveness. In addition, the briefing package discusses the potential impact of staff's recommendations on small businesses, reviews recent recalls associated with booster seats, and provides staff's recommendations to the Commission. Additionally, the draft NPR includes a notice of requirements (NOR), which explains how test laboratories could become CPSC-accepted third party conformity assessment bodies to test booster seats to the new safety standard.

II. BACKGROUND

A. ASTM Voluntary Standard Overview

ASTM F2640, *Standard Consumer Safety Specification for Booster Seats*, is the voluntary standard that was developed to address the identified hazard patterns associated with the use of booster seats. The current standard (F2640-17^{e1}) was approved on March 1, 2017, and published in March 2017. This is the ninth revision since the standard was first published in 2007.

The ASTM standard contains both general and product-specific performance requirements, and it references CPSC requirements for lead in paint, sharp edges or points, small parts, and toys. There are also mechanical requirements to address the hazards of scissoring, shearing, and pinching. The performance requirements relate to tray performance, static load, restraints, attachment to adult chair, structural integrity, and dynamic load. Warning labels and instructional literature requirements are also addressed.

The newest version of the voluntary standard (F2640-17^{e1}) includes new requirements for the wording and formatting of the warning labels following standardized formatting practices.

¹ ASTM International website: www.astm.org, About ASTM International.

B. Products

ASTM F2640-17^{e1} identified a booster seat as “a juvenile chair, which is placed on an adult chair to elevate a child to standard dining table height.” The standard was developed in response to incident data supplied by CPSC staff to address fall hazards. The standard does *not* cover car booster seats, which are also sometimes referred to as “booster seats.” Car booster seats are used in vehicles to raise children so that they can use the lap and shoulder belts correctly. These products are regulated by the National Highway Traffic Safety Administration (NHTSA).

C. Juvenile Products Manufacturers Association Certification²

The Juvenile Products Manufacturers Association (JPMA) has a certification program for a variety of juvenile products, including booster seats. To obtain JPMA certification, manufacturers submit their products to an independent test laboratory for conformance testing to the most current ASTM voluntary standard. Currently, ten manufacturers supply JPMA-certified booster seats. It should be noted that a lack of participation in the JPMA certification program does not mean that the products are not compliant with or tested to the ASTM standard. ASTM F2640-14 is currently in effect for testing purposes under the JPMA certification program. There is typically a 6-month period between ASTM standard publication and its adoption for JPMA certification purposes. ASTM F2640-17^{e1}, the version of the voluntary standard upon which the staff-recommended proposed mandatory standard is based, was published in March 2017 and would be in effect by the time a mandatory standard became final.

D. Incident Data

The memorandum from the Directorate for Epidemiology staff (Tab A) discusses 867 incidents (resulting in two fatal and 146 nonfatal injuries) related to booster seats that reportedly occurred from January 1, 2008 through September 30, 2016. Retailers and manufacturers submitted 83 percent of the reports (723 out of 867) through CPSC’s Retailer Reporting Program. Various sources, such as consumer reports submitted through CPSC’s hotline or Internet site, newspaper clippings, medical examiners, and other state/local authorities provided the remaining incident reports to CPSC. Reporting is ongoing, and therefore, the number of reported fatalities, nonfatal injuries, and non-injury incidents may change in the future.

1. Fatalities

Two fatalities were reported among the 867 incident reports. In 2013, a 22-month-old female sitting on a booster seat attached to an adult chair pushed off from the table and tipped the adult chair backwards into a glass panel of a china cabinet behind her. The cause of death was listed as “exsanguination due to hemorrhage from incised wound.” Also in 2013, a 4-year-old male fell from a booster seat to the floor; he

² Certification JPMA. Juvenile Product Manufacturers Association. (n.d.). Retrieved on April 29, 2016, from: <http://jpma.org/content/certification/overview>.

seemed unhurt at the time but later the same evening when he fell while riding his bike, he was unresponsive and later died. The cause of death was multiple blunt force trauma.

2. Nonfatal Injuries

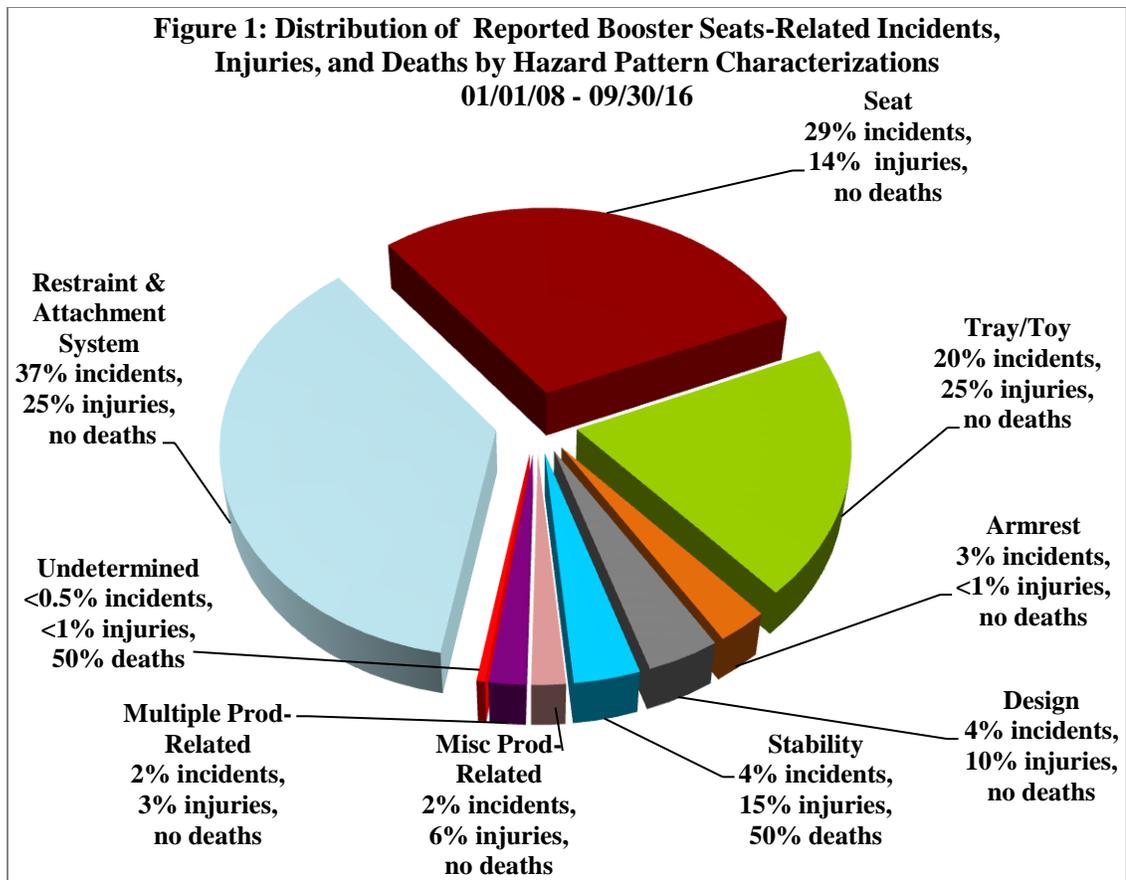
Of the 867 reports associated with booster seat-related incidents occurring between January 1, 2008 and September 30, 2016, a total of 146 involved a nonfatal injury. As shown in Table 2, among the cases with age information available, a majority of the victims were age 18 months and under.

Four children among the 146 reported as injured required a hospital admission. The injuries were skull fractures, concussions, and other head injuries, which resulted from a fall from the booster seat when the adult chair tipped over or the booster seatback broke when the child was being carried in the seat. An additional 22 children were treated and released from a hospital emergency department (ED) for injuries resulting mostly from falls when the base adult chair tipped over, the child restraint system or chair anchor system failed, or the booster seatback broke. The remaining injuries resulted mostly in contusions, abrasions, and lacerations, due to falls or entrapment of limbs/extremities.

The remaining 719 incident reports specified that no injury had occurred or provided no information about any injury. However, many of the descriptions indicated the potential for a serious injury or even death.

E. Hazard Pattern Characterization Based on Incident Data

This section summarizes the hazard pattern characterizations based on the incident data. Figure 1 shows the distribution of incident data by hazard patterns.



Source: CPSC epidemiological databases CPSRMS. Note: Percentages do not always add to 100 due to rounding.

A. Specific component-related

1. Of the 867 incidents, 317 (37 percent) were attributed to the *restraint or attachment system*. The child restraint system keeps the child secure in the seat, while the attachment system secures the booster seat to the adult chair. Restraint system problems included buckles/prongs breaking, jamming, releasing too easily, or separating from straps; straps tearing or fraying, pinching, or coming undone; and inadequacy or ineffectiveness of restraints in containing the child in place. Complaints about the seat attachment system were similar: anchor buckles/clasps/straps breaking, tearing, fraying, detaching or releasing. In 18 incident reports, it was not clear from the report if the buckle or strap referred to the restraint or the attachment system, and in some reports (8 incident reports), both systems were reported to have failed. Thirty-seven injuries were reported in this category, of which seven were treated at a hospital ED.
2. Complaints about the booster *seat*-related issues constituted 254 (29 percent) of the 867 incident reports. Examples of incidents included failure of the lock/latch that controls the seat-recline function; seat pads tearing, cracking, and/or peeling; seat back detaching altogether; seat height adjustment lock/latch failure; and seat detachment from the base, which is available for certain models. This category includes 21 of the reported injuries, including two hospitalizations and five ED-treated injuries.

3. **Tray**-related issues were reported in 171 (20 percent) of the 867 incident reports. Trays with paint finish peeling off, failing to lock/stay locked, sharp protrusions on the underside, too tight/difficult to release, or pinching fingers, were some of the more common problems. Complaints about broken **toy-accessories**, which are usually attached to the tray (or tray-insert), were also common. Thirty-six injuries, including one ED-treated injury, were reported in this category.
4. Problems with booster **armrests** cracking or breaking accounted for 24 (3 percent) of the 867 incident reports. In a few cases, the armrest was reported to have arrived broken inside the package. One injury was reported in this category.

B. General product-related

1. Potential entrapment hazard due to the **design** of the booster seat was reported in 33 (4 percent) of the 867 incident reports. Most descriptions were of limbs, fingers, and toes entrapped in spaces/openings between armrest and seat back/tray, between passive crotch restraint bar and seat/tray, between tray inserts, or in toy accessories. In five of the incident reports, the consumer blamed the design of the booster seat vis-à-vis the fit between the seat and the adult chair making a tip-over hazard more likely. Fifteen injuries, including two ED-treated injuries were reported in this category.
2. **Stability**-related issues were reported in 31 (4 percent) of the 867 incident reports. Most of these incidents (27 of 31) reported that the adult chair to which the booster seat was attached, tipped back or tipped over, while a few mentioned the booster seat itself was unstable. Among the incidents reporting adult chairs tipping back, a few resulted from the child pushing back on a table or a counter. This category includes one death and 22 injuries, including two hospitalizations and five ED-treated injuries.
3. **Miscellaneous other** product-related issues, such as unclear assembly instructions, poor quality construction, and odor, rough surface, breakage, or loose hardware at unspecified sites were reported in 16 (2 percent) of the 867 reported incidents. Nine injuries, including two ED-treated injuries, were reported in this category.

C. Other

1. A combination of **multiple issues**, from among the above-listed problems, was reported in 17 (2 percent) of the 867 incident reports. Four injuries were reported in this category.
2. The problem was **undetermined or unclear** in four (less than 0.5 percent) of the 867 incident reports. Insufficient information was available for CPSC staff to determine how the incidents occurred, and in one incident, a fatality, there were confounding factors reported

that likely contributed to the death. Other than the fatality, one injury was reported in this category.

III. DISCUSSION

A. Adequacy of ASTM F2640 Requirements

Based on the incident data discussed above, staff assessed the adequacy of ASTM F2640-17^{e1} (see Tab B).

Restraints or attachment systems

Typically, the restraints and attachment systems used on booster seats involve straps and buckles. The multiple uses in a day over the life of the product are likely to result in wear and tear on the components. ASTM F2640-17^{e1} includes restraint system testing that adequately addresses breaks, separations, and containment of the child.

Seat-related issues

Many booster seats are designed to allow for multiple users across multiple ages. Therefore, features such as adjustable seat heights, reclinable seat backs, removable seat backs, and collapsible features for travel are common. ASTM F2640-17^{e1} includes performance and testing requirements to assess adequately the structural integrity of the booster seat. The testing addresses seat collapses, component breakage, issues with latching or locking devices, and tipping of booster seat on adult chair.

Tray-related issues

Trays and toy accessories typically attached to the tray are specifically and adequately addressed in F2640-17^{e1}. The standard includes performance and testing requirements to address the tray specifically, and the means in which the tray attaches to the booster seat, in particular. In addition, the standard includes requirements for any toys attached to the tray/booster seat to meet the F963 toy safety requirements.

Armrests

Although F2640-17^{e1} does not test the armrests, specifically, multiple tests related to the tray attachment, structural integrity, and static load of the seat components adequately test the integrity of the whole booster seat, including the armrests.

Product Design

Scissoring, shearing, and pinching requirements are adequately addressed in the voluntary standard. In addition, openings that could potentially be entrapment hazards are adequately addressed in the standard. ASTM F2640-16 added, and ASTM F2640-17^{e1} retained, requirements for including

measurements for the adult chair on which the booster seat should be used. The intent of this requirement is to inform consumers of the proper use of booster seats to prevent tipovers.

Stability

Addressing the stability of the booster seat while attached to an adult chair is difficult in a voluntary standard because the stability is dependent on the adult chair. The ASTM booster seat subcommittee and CPSC staff worked diligently to find an effective requirement to adequately address stability without specifying requirements for the adult chair. Taking guidance from a European standard for booster seats, the ASTM subcommittee added booster seat measurement and labeling requirements to provide consumers with sufficient information about the booster seat size to determine the appropriate booster seat to be used on their intended adult chair. In addition, requirements for warnings and instructional literature were changed in F2640-17^{e1} to use formatting recommendations established by ASTM's Ad Hoc Warnings subcommittee that approved a guidance document in May 2016.

Based on the incident data and review of the voluntary standard, staff recommends incorporating by reference ASTM F2640-17^{e1}. Staff also recommends including specific requests for public comment regarding the performance and testing requirements for food-service booster seats, whether distinct testing and performance requirements for food-service boosters would be appropriate, and if so, what those requirements might be.

B. Food-Service Booster Seats

Booster seats that are designed specifically for use in restaurants are known in the industry as “food-service” booster seats. Food-service booster seats are typically designed to be used with or on restaurant dining chairs or booth/ bench seating. ASTM F2640 broadly defines booster seats as “a juvenile chair, which is placed on an adult chair to elevate a child to standard dining table height.” There is no exclusion for food service booster seats and subcommittee members have stated in several subcommittee meetings that food service booster seats are included in the standard. The voluntary standard states in section 1.4 that if a product does not meet the standard, it should not indicate compliance; compliance is voluntary. However, if the voluntary standard is incorporated into the CPSC final rule, the food-service booster seat will be required to comply. Staff identified only one incident that expressly mentioned a restaurant where an infant was using a booster seat provided by the establishment. Some food-service booster seats may have a unique design, such as skid-free “feet” or friction feet, to accommodate use on booth/bench-style seats. ASTM subcommittee members, testing laboratory representatives, and CPSC staff agree that skid-free and friction feet are not considered “means” of attachment as required in section 6.5 of the voluntary standard since they do not actually attach (*i.e., fasten*) the booster seat to an adult chair and fail to keep the booster seat on the adult chair during testing. However, ASTM subcommittee members, testing laboratory representatives, and CPSC staff, do consider non-strap or belt fastening devices, such as suction cups, to be a means of attachment because suction physically fastens the booster seat to an adult chair. While suction cups are considered a means of attachment, they come in a wide variety of shapes, sizes, and strengths, and

must pass the performance testing by keeping the booster seat from falling off the adult chair.

There are several suppliers that produce booster seats intended solely for use in restaurants. These suppliers sell their food-service booster seats directly to restaurants or through restaurant supply companies. However, these products are also being sold by third parties online to consumers, including through sites such as Amazon.com. Thus, food-service booster seats may also be found in homes. Furthermore, consumers use food-service booster seats in establishments open to the public, making them a “consumer product” under the Consumer Product Safety Act (CPSA).³ According to a representative of the food-service booster seat supplier, the ASTM voluntary standard does not take into account the differences between food-service booster seats and home-use booster seats (or the restaurant and home use environments) in its performance requirements. For example, while home-use booster seats are usually intended to be used with chairs, food-service booster seats also frequently need to be used in booths, which are common in restaurants. Most, if not all, of the suppliers who participated in developing the voluntary standard were suppliers of home-use booster seats. The sole food-service booster seat supplier representative who currently participates in the ASTM voluntary standard development process has consistently said that the existing voluntary standard is not appropriate for food-service booster seat products and has been advocating for a separate food-service booster seat standard. However, there has been no interest among other ASTM members whose firms are not part of the food-service booster seat market.

Staff is interested in receiving comments from manufacturers of food-service booster seats as well as food-service providers about their ability to meet the performance and testing requirements specified in the standard. Specifically, staff is interested to know how food-service booster seats are currently attached to bench/booth seats.

C. Potential Small Business Impact

As discussed in the memorandum from the Directorate for Economic Analysis (Tab C), staff identified 39 firms supplying home-use booster seats to the U.S. market. These firms primarily specialize in the manufacture and/or distribution of children’s products, including durable nursery products. Staff identified an additional 10 firms that supply food-service booster seats to restaurants. These firms sell their food-service booster seats as part of a line of supplies to restaurants. Many of these companies sell through official distributors; others supply directly to restaurants or through restaurant supply stores, often after the restaurant or supply store has applied to sell their products. However, these food-service booster seats are readily available to the public through third parties, such as Amazon.com. Based on U.S. Small Business Administration guidelines, 29 of the 49 firms are small, domestic businesses, including 18 manufacturers, 10 importers, and one firm with an unknown supply source.

³ 15 U.S.C. §§ 2051-2089.

As described in Tab C, staff could not rule out a significant economic impact for 20 of the 29 firms (69 percent) operating in the U.S. market for booster seats. Accordingly, staff prepared an initial regulatory flexibility analysis (IRFA) and requests comments on the potential economic impact of the final rule on firms.

Of the 18 small manufacturers, staff could not rule out a significant economic impact on the nine small manufacturers. Additionally, staff could not rule out a significant economic impact on any of the 10 small importers or on the small firm with an unknown supply source. Third party testing costs are not expected to significantly impact any individual firms.

D. Compliance Recall Information

Compliance staff reviewed recalls of booster seats that occurred from January 1, 2008 to September 30, 2016. During that period, there was one consumer-level recall involving booster seats. The recall was conducted to resolve a fall hazard caused because the stitching on the restraint straps loosened, which allowed the straps to separate from the seat and led the child to fall out.

IV. NOTICE OF REQUIREMENTS

Section 14(a) of the CPSA requires that any children's product subject to a consumer product safety rule under the CPSA must be certified as complying with all applicable CPSC-enforced requirements. The children's product certification must be based on testing conducted by a CPSC-accepted third party conformity assessment body (test laboratory). The CPSA requires the Commission to publish a notice of requirements (NOR) for the accreditation of third party testing laboratories to determine compliance with a children's product safety rule to which a children's product is subject. A proposed rule for booster seats, if issued as a final rule, would be a children's product safety rule that requires issuing an NOR.

The Commission published a final rule, *Requirements Pertaining to Third Party Conformity Assessment Bodies*, 16 C.F.R. part 1112 (78 Fed. Reg. 15836 (March 12, 2013)) (referred to here as part 1112). This rule took effect on June 10, 2013. Part 1112 establishes the requirements for accreditation of third party testing laboratories to test for compliance with a children's product safety rule. The final rule also codifies all of the NORs that the CPSC has published, to date, for children's product safety rules. All new children's product safety rules, such as the proposed rule for booster seats, would require an amendment to part 1112 to create an NOR. Therefore, staff recommends that the Commission propose to amend part 1112 to add booster seats to the list of children's product safety rules for which the CPSC has issued NORs.

V. RECOMMENDED EFFECTIVE DATE

The Administrative Procedure Act (APA) generally requires that the effective date of a rule be at least 30 days after publication of the final rule (5 U.S.C. 553(d)). To allow time for booster seat manufacturers to bring their products into compliance after a final rule is issued, the staff recommends an effective date of 12 months after publication of a final rule for products manufactured or imported on or after that date. While a

6-month effective date has been adopted for a number of other section 104 rules, staff could not rule out a significant economic impact on some importers and small firms. Therefore, the 12-month effective date will allow time for manufacturers and importers to arrange for third party testing and make necessary changes to bring their products into conformance.

VI. STAFF RECOMMENDATIONS

CPSC staff recommends that the Commission propose to incorporate by reference the voluntary standard, ASTM F2640-17^{e1}, *Standard Consumer Safety Specification for Booster Seats*. Staff also recommends requesting public comment regarding the testing and performance requirements for food-service booster seats.

TAB A: Booster Seat-Related Deaths, Injuries, and Potential Injuries; January 1, 2008 – September 30, 2016

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UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
4330 EAST WEST HIGHWAY
BETHESDA, MARYLAND 20814

Memorandum

Date: December 1, 2016

TO : Celestine Kish
Booster Seats Project Manager
Division of Human Factors
Directorate for Engineering Sciences

THROUGH: Kathleen Stralka
Associate Executive Director
Directorate for Epidemiology

Stephen Hanway
Division Director, Division of Hazard Analysis
Directorate for Epidemiology

FROM : Risana Chowdhury
Division of Hazard Analysis
Directorate for Epidemiology

SUBJECT : Booster Seat-Related Deaths, Injuries, and Potential Injuries; January 1, 2008 –
September 30, 2016¹

I. Introduction

This memorandum characterizes the number of deaths and injuries and the types of hazards related to booster seats over a period of nearly nine years, from January 1, 2008 through September 30, 2016.² These characterizations are based on incident reports received by CPSC staff. Due to the large number of injury reports received through emergency departments (ED) during this timeframe, the estimates of ED-treated injuries associated with booster seats are presented separately from the rest of the incident data.

¹ This analysis was prepared by CPSC staff. It has not been reviewed or approved by, and may not necessarily reflect the views of, the Commission.

² Not all of these incidents are addressable by an action the CPSC could take. It is not the purpose of this memorandum, however, to evaluate the addressability of the incidents, but rather, to quantify the number of fatalities and injuries reported to CPSC staff and to provide, when feasible, estimates of ED-treated injuries.

The ASTM voluntary standard F2640 addresses safety issues related to booster seats. According to the ASTM standard, a booster seat is:

a juvenile chair, which is placed on an adult chair to elevate a child to standard dining table height. The booster seat is made for the purpose of containing a child, up to 5 years of age, and normally for the purposes of feeding or eating. A booster seat may be height adjustable and include a reclined position.

Incidents related to dual-mode products that can function as booster seats, as well as another product, such as a floor seat or an activity center, have been included in this analysis if the product failure described was a foreseeable failure for a single-mode booster seat.

ASTM F2640 was first published in 2007, and was developed primarily from incident data provided by CPSC staff. Although multiple, subsequent revisions have been published, the data included in this memorandum begin from 2008 to provide a comprehensive look at the effectiveness of the standard since it was first published, as seen through the hazard patterns indicated in the incident reports.

II. Incident Data³

CPSC staff has received a total of 867 reports of incidents related to booster seats that occurred from January 1, 2008 through September 30, 2016. While most of incidents occurred in home settings, staff identified one incident report that expressly mentioned a restaurant where an infant was using a booster seat provided by the establishment. A large proportion (723 out of 867, or 83 percent) of the incident reports were submitted to CPSC by retailers and manufacturers through CPSC's "Retailer Reporting Program." Because reporting is ongoing, the number of reported injuries and non-injury incidents may change in the future. Table 1 provides the breakdown of the incident reports by year. Given that these reports are anecdotal and because reporting is incomplete, CPSC staff strongly discourages drawing any inferences from the year-to-year increase or decrease shown in the reported data.

³ The data discussed in this section comes from CPSC's database titled, the Consumer Product Safety Risk Management System (CPSRMS). These reported deaths and incidents do not provide a complete count of all that occurred during this period. However, they do provide a minimum number of incidents occurring during this period and illustrate the circumstances involved in the incidents involving booster seats.

CPSC staff extracted the reported incident data on October 21, 2016. All data coded under product codes 1556 (*Attachable high chairs including booster seats*) was extracted and the booster seats-related incidents were identified. Upon careful joint review with CPSC's Directorates for Engineering Sciences, Economics, and Health Sciences staff, as well as CPSC's Office of Compliance staff, many cases were considered out of scope for this memorandum. For example, cases involving hook-on chairs or cases in which the child involved was older than the manufacturer-recommended age (up to 5 years) were excluded from this analysis. Except for incidents occurring on U.S. military bases, all incidents that occurred outside the United States have been excluded. To prevent any double-counting, when staff identified multiple reports of the same incident, they consolidated and counted them as one incident.

Table 1: Reported Booster Seat-Related Incident Data

01/01/08–09/30/16

<i>Incident Year</i>	<i>Number of Incident Reports</i>		
	<i>Total</i>	<i>Injuries</i>	<i>Fatalities</i>
2008	95	27	--
2009	113	21	--
2010	97	29	--
2011	94	17	--
2012	192	18	--
2013	162	15	2
2014*	57	6	--
2015*	44	7	--
2016*	13	6	--
Total	867	146	2

Source: CPSC epidemiological database CPRMS.

Note: * indicates data collection is ongoing.

Table 2 provides the age breakdown of the children, as available, from all 867 incident reports, as well as the 148 injury and fatality reports among them.

Table 2: Age Distribution in Booster Seat-Related Incident Reports

01/01/08–09/30/16

<i>Age of Child</i>	<i>All Incidents</i>		<i>Injuries and Fatalities</i>	
	<i>Frequency</i>	<i>Percentage</i>	<i>Frequency</i>	<i>Percentage</i>
Unreported*	386	45	34	23
One – Six Months	100	12	24	16
Seven – Twelve Months	195	22	37	25
Thirteen – Eighteen Months	80	9	20	14
Nineteen – Twenty-Three Months	39	4	15	10
Two Years	48	6	12	8
Three Years	15	2	5	3
Four Years	4	<0.5	1	<1
Total	867	100	148	100

Source: CPSC epidemiological database CPRMS.

Percentages do not always add to 100 due to rounding.

* Age may be “unreported” under two circumstances: age was unknown or age was not reported because the incident involved no injury.

Following the ASTM F2640 user age recommendations, 4 years was set as the upper age limit in the incident data for this analysis.

A. Fatal Incidents

Two fatalities were reported among the 867 incident reports. In 2013, a 22-month-old female sitting on a booster seat attached to an adult chair pushed off from the table and tipped the adult chair backwards into a glass panel of a china cabinet behind her. The cause of death was listed as “exsanguination due to hemorrhage from incised wound.” In addition, in 2013, a 4-year-old male fell to the floor from a booster seat; initially, he seemed unhurt, but later the same evening when he fell while riding his bike, he was unresponsive and later died. The cause of death was multiple blunt force trauma.

B. Nonfatal Injuries

Of the 867 reports associated with booster seat-related incidents with a date of occurrence between January 1, 2008 and September 30, 2016, a total of 146 involved a nonfatal injury. As shown in Table 2, among the cases with age information available, a majority of the victims were age 18 months and under.

Four children among the 146 reported injured required a hospital admission. The injuries consisted of skull fractures, concussions, and other head injuries that resulted from a fall from the booster seat when the adult chair tipped over, or the booster seatback broke as the child was being carried in the seat. An additional 22 children were treated and released from a hospital ED for injuries resulting mostly from falls when the base adult chair tipped over, the child restraint system or chair anchor system failed, or the booster seatback broke. The remaining injuries resulted mostly in contusions, abrasions, and lacerations caused by falls or from entrapment of limbs/extremities.

The remaining 719 incident reports specified that no injury had occurred or provided no information about any injury. However, many of the descriptions indicated the potential for a serious injury or even death.

III. Hazard Patterns

CPSC staff considered all 867 incident reports for the characterization of the hazard pattern associated with using a booster seat. A majority of the reported incidents were related to problems with a specific component of the booster seat; a small proportion of the reported incidents cited more general problems with the product; and a handful of the incidents reported multiple problems with the product or reported information that was either incomplete or unclear. The hazard patterns identified from the data are presented within these broad categories, with multiple sub-categories within each. In order of descending frequency of incidents, the hazard patterns were as follows:

A. Specific component-related

1. Of the 867 incidents, 317 (37 percent) were attributed to the **restraint** or **attachment system**. The child-restraint system keeps the child secure in the seat, while the attachment system secures the booster seat to the adult chair. Restraint-system problems included: buckles/prongs breaking, jamming, releasing too easily, or separating from straps; straps

tearing or fraying, pinching, or coming undone; and inadequacy or ineffectiveness of restraints in containing the child in place. Complaints about the seat attachment system were similar: anchor buckles/clasps/straps breaking, tearing, fraying, detaching or releasing. In 18 incident reports, it was not clear from the report if the buckle or strap referred to the restraint or the attachment system, and in some reports (8 incident reports), both systems were reported to have failed. Thirty-seven injuries were reported in this category, of which seven were treated at a hospital ED.

2. Complaints about the booster *seat*-related issues constituted 254 (29 percent) of the 867 incident reports. Examples of incidents included failure of the lock/latch that controls the seat-recline function; seat pads tearing, cracking, and/or peeling; seat back detaching altogether; seat height adjustment lock/latch failure; and seat detachment from the base that is available for certain models. This category includes 21 of the reported injuries, including two hospitalizations and five ED-treated injuries.
3. *Tray*-related issues were reported in 171 (20 percent) of the 867 incident reports. Trays with paint finish peeling off, failing to lock/stay locked, sharp protrusions on the underside, too tight/difficult to release, or pinching fingers, were some of the more common problems. Complaints about broken *toy-accessories*, which are usually attached to the tray (or tray-insert), were also common. Thirty-six injuries, including one ED-treated injury, were reported in this category.
4. Problems with booster *armrests* cracking or breaking accounted for 24 (3 percent) of the 867 incident reports. In a few cases, the armrest was reported to have arrived broken inside the package. One injury was reported in this category.

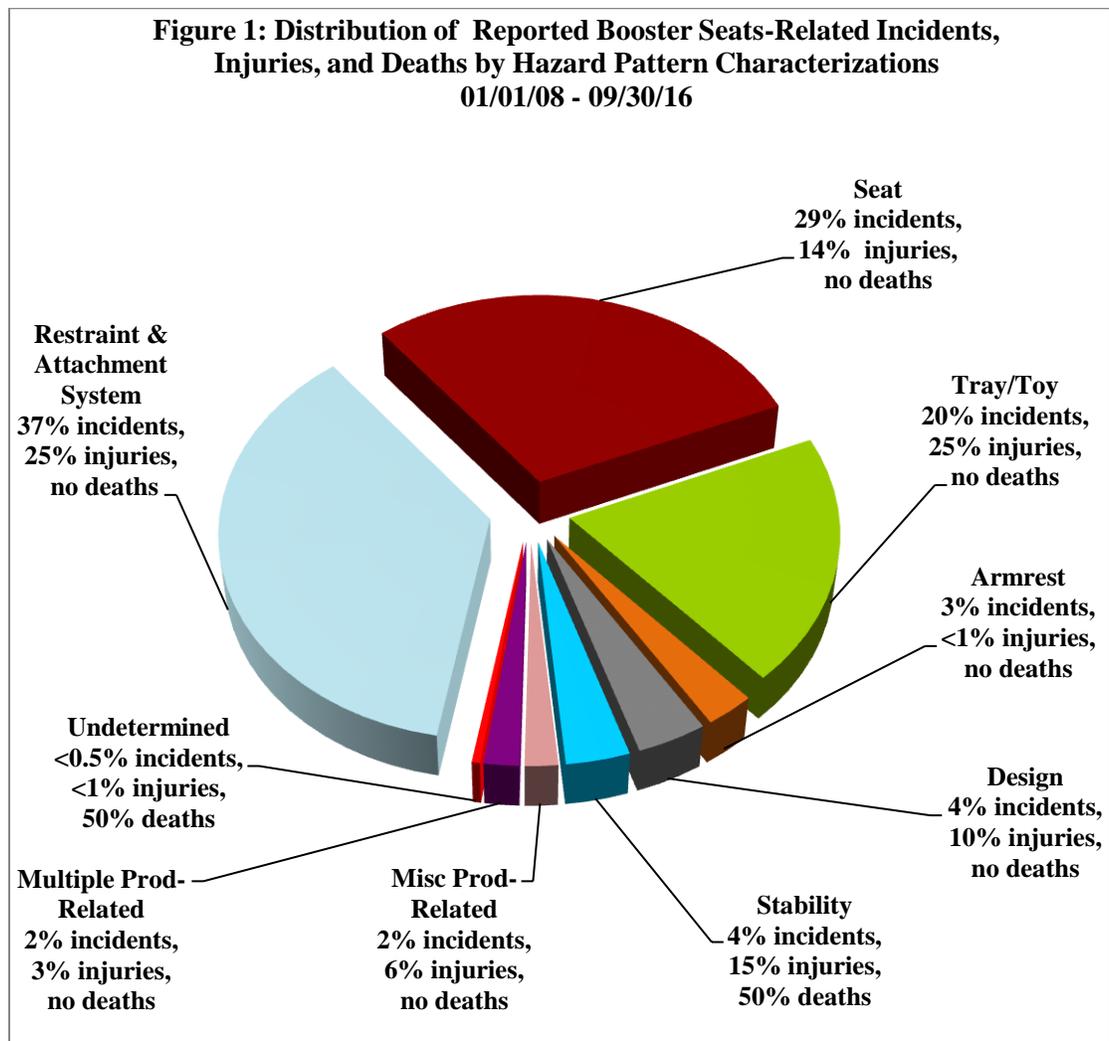
B. General product-related

1. Potential entrapment hazard due to the *design* of the booster seat was reported in 33 (4 percent) of the 867 incident reports. Most descriptions were of limbs, fingers, and toes entrapped in spaces/openings between armrest and seat back/tray, between passive crotch restraint bar and seat/tray, between tray inserts, or in toy accessories, for example. In five of the incident reports, the consumer blamed the design of the booster seat vis-à-vis the fit between the seat and the adult chair making a tip-over hazard more likely. Fifteen injuries, including two ED-treated injuries were reported in this category.
2. *Stability*-related issues were reported in 31 (4 percent) of the 867 incident reports. Most of these incidents (27 of 31) reported that the adult chair to which the booster seat was attached, tipped back or tipped over, while a few mentioned the booster seat itself was unstable. Among the incidents reporting adult chairs tipping back, a few resulted from the child pushing back on a table or a counter. This category includes one death and 22 injuries, including two hospitalizations and five ED-treated injuries.
3. *Miscellaneous other* product-related issues, such as unclear assembly instructions, poor quality construction, and odor, rough surface, breakage, or loose hardware at unspecified sites were reported in 16 (2 percent) of the 867 reported incidents. Nine injuries, including two ED-treated injuries, were reported in this category.

C. Other

1. A combination of *multiple issues*, from among the above-listed problems, were reported in 17 (2 percent) of the 867 incident reports. Four injuries were reported in this category.
2. The problem was *undetermined or unclear* in four (less than 0.5 percent) of the 867 incident reports. Insufficient information was available for CPSC staff to determine how the incidents occurred; and in one incident, a fatality, there were confounding factors reported that likely contributed to the death. Other than the fatality, one injury was reported in this category.

The distribution of the incidents, injuries, and deaths by the hazard patterns described above are shown in Figure 1.



Source: CPSC epidemiological database CPRMS.
Note: Percentages do not always add to 100 due to rounding.

IV. National Injury Estimates⁴

An estimated total of 10,900 injuries (sample size=398, coefficient of variation=0.09) related to booster seats were treated in U.S. hospital EDs over the eight-year period from 2008 to 2015. Until NEISS data for 2016 is finalized in spring 2017, partial estimates for 2016 are not available. The injury estimates for some of the individual years are not reportable per NEISS publication criteria.⁵ However, staff did not observe any increasing or decreasing trend in the data over the eight-year time period.

No deaths were reported through the NEISS. About 64 percent of the injured were under 2 years of age; among the rest, 24 percent, 7 percent, and 4 percent were 2-year-olds, 3-year-olds, and 4-year-olds, respectively. For the ED-treated injuries related to booster seats, the following characteristics occurred most frequently:

- Hazard – falls out of the booster seat (97 percent). These falls were unspecified (54 percent); tip overs (19 percent); tip overs when a child pushed back or rocked back and forth while seated in the seat (7 percent); and when a child leaned forward (5 percent). Other falls occurred when a child attempted to climb into/out of the booster seat and either the booster seat attachment mechanism or the child restraint mechanism failed.
- Injured body part – head (58 percent), face (20 percent), and mouth (8 percent).
- Injury type – internal organ injury (39 percent), lacerations (25 percent), and contusions/abrasions (19 percent).
- Disposition – treated and released (about 98 percent).

⁴ The source of the injury estimates is the National Electronic Injury Surveillance System (NEISS), a statistically valid injury surveillance system. NEISS injury data are gathered from EDs of hospitals selected as a probability sample of all the U.S. hospitals with EDs. The surveillance data gathered from the sample hospitals enable the CPSC staff to make timely national estimates of the number of injuries associated with specific consumer products.

All data coded under product code 1556 (*Attachable high chairs including booster seats*) for patients age 4 years and under was extracted. Certain records were considered out of scope for this memorandum. For example, hook-on chair-related cases that are also covered under product code 1556, or car booster seats incorrectly coded as 1556, were excluded; a sibling or a pet knocking over the adult chair holding the booster seat containing the child was also considered out of scope. These records were excluded before deriving statistical injury estimates.

⁵ According to NEISS publication criteria, an estimate must be 1,200 or greater, the sample size must be 20 or greater, and the coefficient of variation must be 33 percent or smaller.

**TAB B: Engineering Assessment of ASTM F2640 Requirements for
Booster Seats (CPSIA Section 104)**

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UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
4330 EAST WEST HIGHWAY
BETHESDA, MARYLAND 20814

Memorandum

Date: April 3, 2017

To: Celestine Kish, Project Manager, Booster Seats Rulemaking
Division of Human Factors, Directorate for Engineering Sciences

Through: Michael Nelson, Director,
Division of Mechanical Engineering, Directorate for Laboratory Sciences

From: Maxwell Sanborn, Mechanical Engineer,
Division of Mechanical Engineering, Directorate for Laboratory Sciences

Subject: Engineering Assessment of ASTM F2640 Requirements for Booster Seats
(CPSIA Section 104)

I. INTRODUCTION

This memorandum assesses the effectiveness of voluntary standard ASTM F2640-17^{e1}, *Standard Consumer Safety Specification for Booster Seats*, and recommends that the Commission propose to incorporate by reference the voluntary standard F2640-17^{e1} as the mandatory standard, without modification. We provide this assessment in accordance with the Danny Keysar Child Product Safety Notification Act, Section 104 of the Consumer Product Safety Improvement Act (CPSIA), *Standards and Consumer Registration of Durable Nursery Products*.

F2640-17^{e1} identifies a “booster seat” as a “juvenile chair, which is placed on an adult chair to elevate a child to standard dining table height.” The booster seat is made for the purpose of containing a child, up to 5 years of age, and normally for the purposes of feeding or eating. A booster seat may be height adjustable and include a reclined position. Figure 1 shows a typical booster seat.



Figure 1: Typical booster seat not attached to an adult chair.

History of ASTM F2640, *Standard Consumer Safety Specification for Booster Seats*

The voluntary standard for booster seats was first approved and published in 2007, as ASTM F2640-07, *Standard Consumer Safety Specification for Booster Seats*. ASTM has revised the voluntary standard nine times since then. The current version, ASTM F2640-17^{e1}, was approved on February 01, 2017, and published in March 2017.

ASTM F2640-07 established requirements to address the following issues:

- Sharp points and edges,
- Small parts,
- Lead and other toxics in paints,
- Wood parts,
- Scissoring Shearing and Pinching,
- Finger Entrapment,
- Tray Impact testing,
- Tray Engagement testing,
- Static load testing,
- Child Restraint System testing,
- Seat Attachment testing,
- Structural Integrity (Dynamic load) testing,
- Marking and labeling, and
- Instructional literature.

ASTM F2640-07e1 (approved 9/15/2007):

- Included missing language from 1.5 to include: “The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.”
- Changed “restraints” to “attachment means” in 7.4, 7.5.1.1, and 7.5.2.1
- Changed “release” to “locking mechanism” in 7.4.2.1
- Changed “seating surface of the adult chair” to “floor” in 7.5.2.1
- Added “maximum” in front of the word “weight” in 7.5.1.3
- Changed “23 kg” to “22.7 kg” in 7.7.4.

ASTM F2640-09 (approved 7/15/2009):

- Added a new subsection after 7.6.1, which states: “Place a restraint system test harness (see Fig. 4) on a CAMI Infant Dummy Mark II (see Fig. 2), in accordance with the Department of Transportation specification, position the horizontal belt just below the arms, and adjust the horizontal belt snugly around the torso.”
- Added a figure of the Restraint System Test Harness.

ASTM F2640-10 (approved on 4/1/2010):

- Added 6.5.2, which states: “If straps/belts are used as the means of attaching a booster seat to an adult chair they shall be capable of adjustment with a positive, self-locking mechanism that is capable, when locked, of withstanding the forces of tests in 7.6.5 without allowing the strap/belt to slip more than 1 in. and shall not break or separate.”
- The following language was added to 7.4.2.1: “If the design does not allow for a force gauge attachment to the side of the tray, due to the locking mechanism location, a drill hole on the top surface of the tray may be employed as a means of attaching the force gauge.”
- The following language was added to 7.6.5: “. . . and the adult chair straps/belts (if included with the product).”
- The following language was added to 9.1: “The warning statements shall be in contrasting color(s), permanent, conspicuous, and sans serif style font. In warning statements, the safety alert symbol “” and the word “WARNING” shall not be less than 0.2 in. (5 mm) high. The remainder of the text shall be characters whose upper case shall be at least 0.1 in. (2.5 mm) high.”

ASTM F2640-11 (approved 6/1/2011):

- 7.5.1.3 was combined with 7.5.1.2, with the new 7.5.1.2, stating: “Gradually apply a static load, using a bag 6 to 8 in. (150 to 200 mm) in diameter with steel shot as the mass in the bag, of 100 lb. (45 kg) or 3 times the maximum weight of the child recommended by the manufacturer, whichever

is greater, on the center of the seating surface for a period of 5 s and maintain for an additional 60 s.”

- 7.7.4 was combined with 7.7.3, with the new 7.7.3 stating “Perform a drop test using a 50-lb (22.7-kg) bag drop weight of 6 to 8-in. (150 to 200-mm) diameter using steel shot as the mass in the bag. The bag will be dropped onto the center of the seating surface from a height of 3 in. (75 mm). The drop is to be repeated 500 cycles. The cycle time is to be 4 s/cycle, ± 1 s. The drop height is to be adjusted to maintain the 3-in. (75-mm) drop height as is practical.

ASTM F2640-11a (approved 10/1/2011):

- Changed the numbering system in section 3
- Three changes were made to the warning section:
 - The following language was added to 8.2.2 “or tipping over”
 - 8.2.3.3 was added, stating: “Never allow a child to push away from table.”
 - The following language was added to 8.2.4: “Always check security of fit to adult chair before each use.”

ASTM F2640-12 (approved 11/1/2012):

- The following language was added to 7.5.1.2: “When the manufacturer’s recommended weight exceeds the maximum amount of weight allowed by the bag, then stack additional static weights upon the weight bag ensuring that the total weight is applied in a vertical orientation to the seating surface.”

ASTM F2640-14 (approved 1/1/2014):

- The following language was added to 8.3: “The warnings are not required on the retail package if they are on the product and visible in their entirety and are not concealed by the retail package. Cartons and other materials used exclusively for shipping the product are not considered retail packaging.”

ASTM F2640-16 (approved 12/1/2016):

- In section 3, Terminology, the term: “contact surface” and its definition were added.
- Section 6.7 “Maximum Booster Seat Dimensions” was added, describing the maximum width, depth (6.7.1), and height (6.7.2) of the booster seat.
- Section 7.9 “Maximum Booster Seat Dimensions Test” was added, describing the methodology to measure the maximum width and depth of the booster seat.
- Figures 7 and 8 were added, showing how the width of the booster seat is measured between the left and right contact surfaces.

- Figures 9 and 10 were added, showing how the depth of the seat is measured between the front and rear contact surfaces.
- Section 8.4 was added, stating: “each retail package shall address either in text or as a diagram or both,” the seat width and depth of an adult chair that the booster seat shall be attached to, and the backrest height, if the booster seat requires attachment to the backrest of an adult chair.
- Figure 11 and 12 were added, showing how the seat depth is measured between the front contact surfaces and rear vertical plane.
- In section 9.2, the word “must” was changed to “shall,” which refers to warnings in 8.2.2, 8.2.3, 8.2.4 and 8.3.2, and the following language were added to the end: “and the adult chair dimensional information in 8.4.”
- Figures 13 and 14 were added, showing the backrest attachment means from horizontal plane to top of strap slots.
- Rationale X1.1 was added to the appendix, stating: “The requirements in 6.7 were derived from the Hazards due to inadequate size requirements in EN 16120 Child Use and Care Articles – Chair Mounted Seat.”

ASTM F2640-17^{e1} (approved 3/1/2017):

- In section 6.5 “Booster Seat Attachment,” a requirement (6.5.2) was changed to state: “Following completion of the test in 7.9 the attachment means of the booster seat to the adult chair (a) should not allow the booster seat to fall off the adult chair and (b) shall not break and shall remain functional.”
- Section 7.9, “Booster Seat Attachment Test,” was modified to require the testing for attachment means for booster seats that use a means of attachment other than straps/belts.
- Section 8.1, changes were made to the language for clarity of marking and labeling.
- Section 8.2 added the verbiage: “The marking and labeling on the product shall be permanent.”
- Section 8.3 changed to “Any upholstery labeling required by law shall not be used to meet the requirements of this section.”
- Section 8.4 changed to include descriptions of the warning label design and required language for the product. This section replaces the requirements previously stated in 8.2.3 and 8.2.4.
- Section 8.5 added description of the product warning statements.
- Section 8.6 added description of the required package warning statements.
- Section 8.7 added, to include the previous section 8.4.
- Figure 15 was added showing an example of a warning label.
- Rationale X1.2 was added to the appendix, stating: “The requirements in 6.5 were changed because the Standard Consumer Safety Specification for Booster Seats (F2640-14) did not have a requirement to test the attachment means for Booster Seats that utilize a means of attachment other than straps/belts.”

Description of ASTM F2640 Performance Requirements

In addition to the general requirements typically found in children's products, such as prohibition of sharp points/edges, small parts, and lead in paints, Section 6 of ASTM F2640-17^{e1} also has seven performance requirements that are specific to booster seats. A description of the requirements include the following:

- Tray impact test: This test assesses the tray's resistance to breaking into small pieces or creating sharp points/edges when dropped from a height of 36 inches. The tray is dropped once on each of four different surfaces, including the attaching mechanism.
- Tray engagement test: This test assesses the tray's ability to remain engaged to the booster seat when subjected to a force of 45 lbs. in each direction, both horizontally and vertically.
- Static load test: This test assesses whether the booster seat can support its maximum recommended weight with a safety factor of three, by gradually applying a static load of three times the manufacturer's maximum recommended weight, or 100 lbs. (45 kg), whichever is greater, on the center of the seating surface and maintaining for 1 minute. This test is also performed on the tray; however, the test load is 50 lbs.
- Restraint system test: This test assesses whether the restraint system can secure a child in any of the manufacturer's recommended-use positions. A force of 45 lbs. is applied to a CAMI Infant Dummy Mk II that has been restrained in the booster seat. The restraint system and its closing means shall not break, separate, or permit removal of the dummy from the booster seat.
- Seat attachment test: Section 6.5 states that a booster seat must have a means of attaching a booster seat to an adult chair and the performance test assesses the booster seat's ability to remain fastened to the adult chair. This is determined by applying a pull force of 45 lbf (200 N) at the horizontal and vertical center of the front of the booster seat. The attachment means of the booster seat to the adult chair (a) shall not allow the booster seat to fall off the adult chair and (b) shall not break and shall remain functional. Through discussions with ASTM subcommittee members and testing laboratory representatives, staff determined that skid-free and friction feet are not considered "means" of attachment as required in section 6.5 of the voluntary standard since they do not actually fasten the booster seat to an adult chair and fail to keep the booster seat on the adult chair during testing. However, non-strap or belt fastening devices, such as suction cups, are considered a means of attachment. While suction cups are considered a means of attachment, they come in a wide variety of shapes, sizes, and strengths, and must pass the performance testing by keeping the booster seat from falling off the adult chair.
- Structural integrity (Dynamic load) test: This test assesses the durability of the locking/latching devices that prevent folding or adjustment of booster seat. This is determined by dropping a 50-lb. test mass 3 inches above the seating surface 500 times at a rate of 1 drop/4 seconds.

- Maximum booster seat depth and width: This test essentially describes the minimum depth and width of the adult chair that the booster seat is going to be attached to.

II. ADEQUACY OF THE CURRENT ASTM F2640-17^{e1} REQUIREMENTS

This section discusses how each hazard pattern relates to the current voluntary standard, F2640-17^{e1}. LSM staff believes that F2640-17^{e1} addresses many of the general hazards associated with durable children's products, such as lead in paints, sharp edges/sharp points, and small parts. F2640-17^{e1} also includes specific requirements for restraint systems.

Hazard Pattern 1 – Restraint or attachment system

Of the 867 incidents reported, 317 were attributed to the restraint or attachment system. No fatalities were reported in this category. Restraint system problems included buckles/prongs breaking, jamming, releasing too easily, or separating from straps; straps tearing or fraying, pinching, or coming undone; and inadequacy or ineffectiveness of restraints in containing the child in place, for example. Complaints about the seat attachment system were similar: anchor buckles/clasps/straps breaking, tearing, fraying, detaching or releasing. ASTM F2640 adequately addresses this hazard two ways, by using the seat attachment test and the restraint system test.

Hazard pattern 2 – Seat issues

Seat-related issues consisted of 254 incidents, including failure of the lock/latch that controls the seat-recline function; seat pads tearing, cracking, and/or peeling; seat backs detaching altogether; seat height adjustment lock/latch failures; and seat detachment from the base that is available for certain models. The static and dynamic tests both adequately address these problems.

Hazard Pattern 3 – Tray issues

Tray-related issues were reported in 171 of the 867 incident reports. Trays with paint finish peeling off, failing to lock/stay locked, sharp protrusions on the underside, too tight/difficult to release, or pinching fingers, were some of the more common problems. The general requirements section of F2640 adequately addresses peeling paint, sharp protrusions, and pinching hazards. The locking failures are addressed with the tray engagement test.

Hazard Pattern 4 – Armrest issues

Problems with booster armrests cracking or breaking accounted for 24 of the 867 incident reports. In a few cases, the armrest was reported to have arrived broken inside the package. The static and dynamic tests both adequately address these problems.

Hazard Pattern 5 –Potential Entrapment

Potential entrapment hazard due to the design of the booster seat was reported in 33 of the 867 incident reports. Most descriptions were of limbs, fingers, and toes entrapped in spaces/openings between the armrest and seat back/tray, between passive crotch restraint bar and seat/tray, between tray inserts, or in toy accessories, for example. The general requirements section, specifically, sections 5.5 (Scissoring, Shearing and Pinching), 5.6 (Openings), and 5.10 (Toys) adequately address these hazards.

Hazard Pattern 6 – Stability

Stability-related issues were reported in 31 of the incident reports. Most of these incidents (27 of 31) reported that the adult chair to which the booster seat was attached, tipped back or tipped over. Currently, F2640 does not address this hazard with a performance requirement. However, the standard has a labeling requirement, stating: “Never allow a child to push away from table.” In addition, ASTM F2640-16 added, and ASTM F2640-17^{e1} retained, requirements to identify the size of adult chair on which the booster seat can fit, to allow consumers to make a more informed purchasing choice. The new booster seat measurements are required on the packaging so the consumer can determine which booster seat will fit better on their adult chair.

Hazard Pattern 7 – Miscellaneous other

These product-related issues, such as unclear assembly instructions, poor quality construction, and odor, rough surface, breakage, or loose hardware at unspecified sites were reported in 16 (2 percent) of the 867 reported incidents. The general requirements section, as well as the instructional literature section adequately address these hazards.

III. OTHER STANDARDS

LSM staff compared the performance requirements of ASTM F2640-17^{e1} to the performance requirements of other standards. LSM staff found one international standard, BS EN16120 Child Use and Care Articles – Chair Mounted Seat, which is intended for a similar product category; however, there are several differences. Primarily, the scope of F2640 includes products intended for children up to 5 years of age, while EN 16120 is intended for products up to an age of 36 months or a maximum weight of 15 kg (33 lbs.)

Some individual requirements in the BS EN16120 standard are more stringent than F2640-17^{e1}. In BS EN16120, there are requirements for head entrapment, lateral protection, surface chemicals, cords/ribbons, material shrinkage, packaging film, and monofilament threads. Conversely, some individual requirements in F2640-17^{e1} are more stringent than those found in EN 16120. In F2640, requirements are included for tray performance and toy accessories. Currently, there is no technically feasible method to test for the most prevalent and dangerous hazard pattern: falls resulting from tipping. However, staff will continue to monitor hazard patterns and recommend future changes, if necessary.

Staff believes that the current ASTM F2640-17^{e1} standard is the most comprehensive of the standards to address the incident hazards.

TAB C: Initial Regulatory Flexibility Analysis of the Staff-Recommended Proposed Standard for Booster Seats and the Accreditation Requirements for Conformity Assessment Bodies for Testing Conformance to the Booster Seats Standard

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UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
4330 EAST WEST HIGHWAY
BETHESDA, MARYLAND 20814

Memorandum

Date: April 3, 2017

TO : Celestine T. Kish
Project Manager, Booster Seats
Division of Human Factors
Directorate for Engineering Sciences

THROUGH: Gregory B. Rodgers, Ph.D.
Associate Executive Director
Directorate for Economic Analysis

Robert L. Franklin
Senior Staff Coordinator
Directorate for Economic Analysis

FROM : Jill L. Jenkins, Ph.D.
Economist
Directorate for Economic Analysis

SUBJECT : Initial Regulatory Flexibility Analysis of the Staff-Recommended Proposed Standard for Booster Seats and the Accreditation Requirements for Conformity Assessment Bodies for Testing Conformance to the Booster Seats Standard¹

I. Introduction

ASTM F2640-17^{e1}, *Standard Consumer Safety Specification for Booster Seats*, is the current ASTM International (ASTM) standard for booster seats. Staff recommends that the U.S. Consumer Product Safety Commission (CPSC or Commission) issue a proposed rule under the requirements of the Danny Keysar Child Product Safety Notification Act (section

¹ Industrial Economics, Incorporated (IEc) served as a consultant on this project, performing research and analysis to support Directorate for Economic Analysis (EC) staff.

104) of the Consumer Product Safety Improvement Act (CPSIA) that incorporates by reference the most recent ASTM standard for booster seats, with no modifications.

This memorandum evaluates the potential economic impact of the staff-recommended booster seats standard on small entities, including small businesses, as required by the Regulatory Flexibility Act (RFA).² Section 603 of the RFA requires that agencies prepare an initial regulatory flexibility analysis (IRFA) and make it available to the public for comment when the general notice of proposed rulemaking (NPR) is published, unless the head of the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. As explained below, staff could not rule out a significant economic impact for 20 of the 29 firms (69 percent) operating in the U.S. market for booster seats.

The IRFA must describe the impact of the proposed rule on small entities and identify significant alternatives that accomplish the statutory objective and minimize any significant economic impact. Specifically, the IRFA must contain:

1. a description of the reasons why action by the agency is being considered;
2. a succinct statement of the objectives of, and legal basis for, the proposed rule;
3. a description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply;
4. a description of the projected reporting, recordkeeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities subject to the requirements and the type of professional skills necessary for the preparation of reports or records; and
5. an identification, to the extent possible, of all relevant federal rules which may duplicate, overlap, or conflict with the proposed rule.

I. The Product

A booster seat, as identified in ASTM F2640-17^{e1} is “a juvenile chair, which is placed on an adult chair to elevate a child to standard dining table height. The booster seat is made for the purpose of containing a child, up to 5 years of age, and normally for the purposes of feeding or eating. A booster seat may be height adjustable and include a reclined position.” Booster seats are constructed from a wide variety of materials, such as wood, plastic, fabric, metal, and/or foam. Most booster seats, particularly those intended for home use, have removable trays, allowing a table to be used as an alternative eating surface. Staff was

² 5 U.S.C. §§ 601-612.

unable to find any food-service booster seats sold with trays (or any trays sold separately for use with booster seats). A few booster seats appear to rely on the occupant’s weight to keep the seat attached to the adult chair, but most offer at least one other attachment method as well, such as straps and suction cups.³

Some booster seats are intended to double as floor seats for toddlers, while there are a few high chair/booster seat combination products as well. The staff-recommended proposed standard would cover these products when they are in their booster seat configuration. The standard does *not* cover car booster seats, which are also sometimes referred to as “booster seats.” Car booster seats are used in vehicles to raise children so that lap and shoulder belts can be used correctly. Car booster seats are regulated by the National Highway Traffic Safety Administration (NHTSA).

Several suppliers produce booster seats that are intended solely for use in restaurants. These suppliers sell their food-service booster seats directly to restaurants or through restaurant supply companies. However, these products are also sold to consumers online by third parties, including through sites such as Amazon.com. Consequently, food-service booster seats may also be found in homes. Furthermore, consumers use food-service booster seats in establishments open to the public, making them a “consumer product” under the Consumer Product Safety Act (CPSA).⁴ Figure 1a shows an example of a typical home-use booster seat and Figure 1b shows a typical food-service booster seat.

Figure 1. Typical Home-Use and Food-Service Booster Seats



a. Typical Home-Use Booster Seat



b. Typical Food-Service Booster Seat

³ As noted below, anti-skid bottoms and grip feet that are used to minimize slippage would not be considered attachment methods under ASTM F2640-17^{e1} requirements.

⁴ 15 U.S.C. §§ 2051-2089.

The prices for home-use and food-service booster seats are similar, averaging around \$50 to \$60. Not surprisingly, combination high chair/booster seat products tend to be more expensive, ranging in price from \$70 to \$250.

The scope of the ASTM voluntary standard for booster seats includes both home-use and food-service booster seats. However, most, if not all, of the suppliers who participated in developing the voluntary standard were suppliers of home-use booster seats. The sole food-service booster seat supplier representative who currently participates in the ASTM voluntary standard development process has consistently said that the existing voluntary standard is not appropriate for food-service booster seat products and has been advocating for a separate food-service booster seat standard. However, there has been no interest among other ASTM members whose firms are not part of the food-service booster seat market. According to the representative of the food-service booster seat supplier, the ASTM voluntary standard does not take into account the differences between food-service booster seats and home-use booster seats (or the restaurant and home use environments) in its performance requirements. For example, while home-use booster seats are almost always intended to be used with chairs, food-service booster seats frequently need to be usable in booths, which are common in restaurants.

On the other hand, as noted above, food-service booster seats may be purchased by consumers, and therefore, may be used in homes, making them subject to all of the known home-use hazard patterns. Additionally, many of the same hazards that exist in the home, may also exist in restaurants. For example, if the booster seat is larger than the adult chair to which it is attached, the booster seat may be prone to tipping over when the child moves, or if the adult chair is bumped. Moreover, while in a restaurant setting the child is typically seated next to the adult while the booster seat is in use, it is not clear that this is equivalent to attending to the child. There is some evidence from restaurant incidents with high chairs that adult attendance in a restaurant environment may be distracted, leading to incidents similar to those that occur in home settings.

Staff requests comments on the differences between food-service and home-use booster seats. However, given the limitations imposed by section 104 of the CPSIA (discussed in Section III), staff requests that the comments focus on particular requirements for the two types of booster seats, to the extent possible. Specifically, staff requests comments on how might the safety risks vary in the two use environments, and what, if any, differences in requirements might address these variations to make booster seats safer in *both* use environments. If commenters believe that food-service booster seats should be subjected to different requirements than home-use booster seats, staff would also appreciate comments on how food-service booster seats might be distinguished from home-use booster seats. As always, staff would appreciate information about the impact that differing requirements

might have on firms (supplying both food-service and home-use booster seats), particularly whether any of the existing requirements could create unintended hazards. In addition, staff seeks information on the cost and time impact on firms.

II. Reason for Agency Action and Legal Basis for the Draft Proposed Rule

Section 104 of the CPSIA requires the CPSC to examine and assess the effectiveness of any voluntary consumer product safety standards for durable infant or toddler products and promulgate consumer product safety standards that are substantially the same as the voluntary standards or more stringent than the voluntary standards if the Commission determines that more stringent requirements would further reduce the risk of injury associated with the products. Booster seats (referred to as “booster chairs”) were specifically mentioned as a durable infant or toddler product in section 104(f)(2).

Based on National Electronic Injury Surveillance System (NEISS) injury estimates⁵ and data on the number of booster seats in use from CPSC’s Durable Nursery Product Exposure Survey (DNPES),⁶ staff found that the risk associated with booster seat use in homes is approximately 2.12 emergency department-treated injuries per 10,000 booster seats in use annually [(1,363 average annual injuries⁷ ÷ 6.43 million booster seats in use in U.S. households) x 10,000].

Section 104 of the CPSIA requires that when the Commission promulgates standards for the enumerated categories of durable infant or toddler products, the Commission’s standard must be either “substantially the same as such voluntary standards,” or “more stringent than such voluntary standards.” Accordingly, a CPSC modification to the voluntary standard excluding food-service boosters would need to be based on a determination that such exclusion would result in a booster seat standard that is either substantially the same as the voluntary standard or *more* stringent. Because the ASTM voluntary standard includes food-service booster seats within its scope, and no other voluntary standard covering food-service booster seats exists, staff cannot recommend excluding food-service booster seats from the proposed rule.

⁵ Memorandum from Risana Chowdhury, Division of Hazard Analysis, Directorate for Epidemiology, dated December 1, 2016, Subject: Booster Seats-Related Deaths, Injuries, and Potential Injuries; January 1, 2008 – September 30, 2016.

⁶ Melia, K.L. and J.L. Jenkins (November 2014). *Durable Nursery Products Exposure Survey (DNPES): Final Summary Report*. U.S. Consumer Product Safety Commission, prepared by Westat.

⁷ There were an estimated total of 10,900 emergency department-treated injuries over the eight-year period 2008-2015.

III. Requirements of the Draft Proposed Rule

The staff-recommended draft proposed rule would incorporate by reference the voluntary ASTM standard for booster seats (F2640-17^{e1}). If adopted by the Commission as a final rule, it would become a mandatory product safety rule under the CPSIA. Firms whose booster seats do not comply with a final rule would need to evaluate their products, determine what changes would be required to meet the standard, and decide how to proceed. Noncompliant products would need to be removed from the U.S. market or modified to meet the staff-recommended proposal.

The major requirements from ASTM F2640-17^{e1} are presented below.⁸

- Tray performance—intended to reduce the likelihood of the tray coming loose or breaking. It includes several horizontal and vertical pull tests and a drop test for non-tool removable trays.
- Static load—intended to ensure that the booster seat can support the weight of a child up to three times the weight of the expected occupant. Also ensures that any tray can handle a significant weight as well.
- Child restraint system—intended to ensure that restraint systems, which are required for booster seats graded for children under 36 months old, work effectively.
- Booster seat attachment—requires a means of attaching the booster seat onto an adult chair, and also tests attachments for effectiveness.
- Structural integrity—intended to ensure that the booster seat remains intact and functional, and retains its shape over time, by simulating dynamic use.
- Maximum booster seat dimensions—intended to prevent tip-over incidents by making sure that the booster seat is smaller than the adult chair with which it is used. The minimum adult chair dimensions appropriate for use with a particular booster seat are required to be presented on the retail package.

The voluntary standard also includes various general requirements common to most other voluntary children's product standards: (1) torque and tension tests to ensure that components cannot be removed; (2) requirements to prevent entrapment and cuts (minimum and maximum opening size, small parts, hazardous sharp edges or points, smoothness of wood parts, exposed coil springs, and scissoring, shearing, and pinching); (3) marking and labeling requirements, including permanency requirements; (4)

⁸ Additional information on the ASTM standard and how it addresses various hazard patterns can be found in the memorandum from Maxwell Sanborn, Division of Mechanical Engineering, Directorate for Laboratory Sciences, dated April 3, 2017, Subject: Engineering Assessment of ASTM F2640 Requirements for Booster Seats (CPSIA Section 104).

requirements for instructional literature; and (5) toy accessory requirements. ASTM 17^{ε1} includes no reporting or recordkeeping requirements.

As discussed, staff seeks feedback from the public on whether these requirements should differ for food-service versus home-use booster seats. Estimates of the cost/time effect any alternatives might have on suppliers would be helpful as well.

The marking and labeling requirements of ASTM F2640-17^{ε1} require that “[e]ach product and its retail package shall be marked or labeled clearly and legibly...” While this does not seem to require a retail package, the food-service booster seat suppliers contacted as part of staff’s market research expressed concern about how test labs might interpret this requirement for their booster seats; because food- service-style booster seats are not intended for sale to the public by their original suppliers, they typically lack a “retail package.” Staff requests information from test laboratories on how this requirement would be interpreted for testing purposes with respect to booster seats sold without retail packaging.

Staff believes that several firms may not be able to meet ASTM F2640-17^{ε1}’s attachment requirements or test method without potentially costly modifications. As noted in the Directorate for Laboratory Sciences memorandum,⁹ mechanisms used to reduce slippage, such as grip feet or anti-skid bottoms, would not be considered attachment methods under ASTM F2640-17^{ε1}. Mechanisms like belts, straps, and suction cups that are intended to prevent slippage would be considered attachment methods. However, several ASTM members felt that booster seats that used suction cups without an additional attachment method would be unable to pass the attachment test. Based on this information, staff assumes throughout the analysis that booster seats that do not use belts or straps would not be able to pass the requirement/test method for attachment to an adult chair. Staff requests comments on whether a suction cup attachment method is capable of passing ASTM F2640-17^{ε1}’s attachment test. Staff also requests feedback on the costs and time frame that may be required to modify booster seats with friction or noncompliant attachment methods to meet the staff-recommended proposed requirement and test method.

IV. Other Federal or State Rules

CPSC staff has not identified any federal or state rule that either overlaps or conflicts with the staff-recommended proposed rule.

⁹ Memorandum from Maxwell Sanborn, Division of Mechanical Engineering, Directorate for Laboratory Sciences, dated April 3, 2017, Subject: Engineering Assessment of ASTM F2640 Requirements for Booster Seats (CPSIA Section 104).

V. The Market for Booster Seats and the Impact on Small Businesses

Staff identified 39 firms supplying home-use booster seats to the U.S. market. These firms primarily specialize in the manufacture and/or distribution of children's products, including durable nursery products. Staff identified an additional 10 firms supplying food-service booster seats to restaurants. These firms sell their food-service booster seats without any retail packaging, as part of a line of supplies to restaurants. Many of the food-service booster seat suppliers sell through official distributors; others supply directly to restaurants or through restaurant supply stores, often after the restaurant or supply store has applied to sell their products. However, these food-service booster seats are readily available to consumers through third parties, including Amazon.com. Food-service booster seats may become available through third parties when restaurants go out of business and sell off their equipment, or when persons with access to restaurant supply companies sell their products directly to consumers. Twenty-eight of the 49 known firms are domestic manufacturers and 15 are domestic importers; staff could not determine the supply source for an additional small domestic supplier. The remaining five firms are foreign (three manufacturers and two retailers).¹⁰

Staff expects that the booster seats of 17 of these firms are already compliant with ASTM F2640¹¹ because the firms either: (1) have their booster seats certified by the Juvenile Products Manufacturers Association (JPMA) (10 firms) or (2) claim compliance with the voluntary standard (7 firms).

Under U.S. Small Business Administration (SBA) guidelines, a manufacturer of booster seats is considered small if it has 500 or fewer employees; and importers are considered small if they have 100 or fewer employees. Staff limited our analysis to domestic firms because SBA guidelines and definitions pertain to U.S.-based entities. Based on these guidelines, about 29 of the 49 domestic firms are small—18 domestic manufacturers, 10 domestic importers, and one firm with an unknown supply source. Additional unknown small domestic booster seat suppliers may be operating in the U.S. market. Table 1 describes the firms in the booster seat market.

¹⁰ Determinations were made using information from Dun & Bradstreet and ReferenceUSAGov, as well as firm websites.

¹¹ Specifically, these firms are compliant with ASTM F2640-14, the version of the standard currently effective for testing purposes under the JPMA certification program. JPMA typically allows 6 months for products in their certification program to shift to a new standard once it has been published. Therefore, the recently published ASTM F2640-17^{e1} is not expected to be in effect for testing purposes before September 2017. As discussed in Section V.A.1 below, staff expects that firms whose booster seats comply with the ASTM standard will continue to comply because it is an established business practice of theirs.

Table 1. Identified Firms in the U.S. Booster Seat Market

CATEGORY	NUMBER OF FIRMS
Total Firms	49
Domestic	44
Small	29
Manufacturers	18
Compliant with ASTM Voluntary Standard	8
Not Compliant with ASTM Voluntary Standard	10
Importers	10
Compliant with ASTM Voluntary Standard	0
Not Compliant with ASTM Voluntary Standard	10
Unknown Supply Source	1
Compliant with ASTM Voluntary Standard	0
Not Compliant with ASTM Voluntary Standard	1
Large	15
Foreign	5
Highlighted categories are the focus of this analysis.	

A. Small Manufacturers

1. Small Manufacturers with Compliant Booster Seats

Of the 18 small manufacturers, eight produce booster seats that comply with ASTM F2640-14, the voluntary standard currently in effect for testing purposes under the JPMA certification program. In general, it is expected that small manufacturers whose booster seats already comply with the voluntary standard currently in effect for testing purposes will remain compliant with the voluntary standard as it evolves. This is because these small manufacturers follow, and in five cases, actively participate in, the standard development process. Therefore, compliance with the voluntary standard is part of an established business practice. ASTM F2640-17^{e1}, the version of the voluntary standard upon which the staff-recommended proposed standard is based, has already been published and will be in effect by the time the mandatory standard becomes final, and these firms are likely to be in compliance, based on their history.

All but one of these eight firms supply home-use booster seats that use straps/belts as an attachment method. The remaining small manufacturer uses suction cups to attach their home-use booster seat to adult chairs. It is unclear whether their booster seat would pass the attachment test in ASTM F2640-17^{e1} without modifications. Several participants in the ASTM voluntary standards development process, including one of the supplier representative contacted by EC staff, believe that belts and/or straps will be required.¹² If modifications were required, the impact could be significant.¹³ The firm could undertake efforts to improve their existing suction system, or they could shift to a strap/belt system, which would involve creating new molds, in addition to the cost of the belts and buckles. Several of the supplier representatives staff contacted said they believe that a complete redesign for booster seats costs could run around \$500,000. Although it is unlikely that the cost of addressing the attachment performance requirement would be that high, any change that involves redesign can be expensive and it is believed that the affected firm has relatively low sales revenue. Therefore, staff cannot rule out a significant impact on this firm.

2. Small Manufacturers with Noncompliant Booster Seats

Ten small manufacturers produce booster seats that do not comply with the voluntary standard; half are home-use booster seat suppliers and the other half supply food-service booster seats. Staff cannot rule out a significant economic impact for any of these small manufacturers. The booster seats manufactured by all 10 firms are likely to require modifications, some of which may be significant, to simply meet the requirements of the voluntary standard. Additionally, eight of the ten firms use methods other than belts or straps (such as suction cups or anti-skid/friction bottoms) on one or more of their booster seat products. Of those eight firms, all but two supply plastic or foam booster seats, which staff believes would be more expensive to modify than wooden booster seats.¹⁴

According to the firms contacted, some requirements in the ASTM voluntary standard may be more difficult for firms with noncompliant booster seats to meet than others. For example, one supplier representative pointed out that the use of a CAMI dummy in the restraint-system test can lead to inconsistent test results. This could make it difficult for firms unfamiliar with this kind of testing to determine what changes to make to their products to meet the mandatory standard. Another supplier representative stated that the

¹² To assist in the evaluation of the economic impact of the draft proposed rule, EC staff contacted several ASTM members and supplier representatives. Of the firms contacted, seven agreed to receive questionnaires, and four responded.

¹³ If they chose not to comply and stopped production instead, the impact could also be significant.

¹⁴ It may be possible to drill holes in wooden booster seats for the belts/straps in the short run. Plastic and foam booster seats are likely to require new molds.

tray pull tests might prove to be expensive, possibly requiring redesign and retooling, although it is unclear what they find difficult about the test.

According to industry contacts, some plastic booster seats may require a complete redesign to comply with the warning label requirements, even if sufficient space is available on the product to display the labels. Where plastic booster seats are designed with a textured surface, except for those places intended to accommodate warning labels, it might not be possible to alter existing molds to meet the warning label requirements. New molds might have to be designed and fabricated; although the lack of location specificity in the warning label requirements might make this unnecessary in some cases. Currently, we do not know how many firms may require a complete redesign versus more limited alterations.

The extent and cost of the changes required for the booster seats of these ten firms to comply with the staff-recommended proposed rule cannot be determined, and therefore, staff cannot rule out a significant economic impact. However, based on the revenue data available for these firms, the impact is unlikely to be significant for two of the firms, unless modifications costing more than \$200,000 are required. The impact on five of the firms could be significant, even with relatively minor changes (*i.e.*, less than \$40,000). The impact on the remaining three firms could not be determined without information on the costs of compliance, revenue data, or both.

Staff requests information on the changes that may be required to meet the voluntary standard, ASTM F2640-17^{e1} and, in particular, whether redesign or retrofitting would be necessary, in addition to the associated costs and time frame. We also request information on the degree to which the attachment test may add to a firm's costs, particularly if the current attachment method is something other than belts or straps.

3. Third Party Testing Costs for Small Manufacturers

Under section 14 of the CPSA, once new booster seat requirements become effective, all manufacturers will be subject to the third party testing and certification requirements under the *Testing and Labeling Pertaining to Product Certification* rule (1107 rule). Third party testing will include any physical and mechanical test requirements specified in the final booster seat rule. Manufacturers and importers should already be conducting required lead testing for booster seats. Third party testing costs are in addition to the direct costs of meeting the requirements of the booster seat standard.

About 45 percent of small booster seats manufacturers (8 out of 18) are already testing their products to verify compliance with the ASTM standard, although not necessarily by a

third party. For these manufacturers, the impact on testing costs will be limited to the difference between the cost of third party tests and the cost of current testing regimes. Contacted suppliers estimate that third party testing booster seats to the ASTM voluntary standard would cost about \$500 to \$1,000 per model sample, with the higher cost being more applicable to the smallest suppliers. For the eight small manufacturers that are already testing, the incremental costs are unlikely to be economically significant. This is consistent with information provided in informal discussions with several firms actively participating in the ASTM voluntary standard development process.

For the ten small manufacturers that are not currently testing their products to verify compliance with the ASTM standard, the impact of third party testing, alone, could result in significant costs for three firms. Although it is unknown how many samples will be needed to meet the “high degree of assurance” criterion required in the 1107 rule, testing costs could exceed one percent of gross revenue for two of these firms if five samples needed to be tested (assuming high-end testing costs of \$1,000 per model sample). Revenue information was not available for the third firm, but it appears to be very small; therefore, this firm might be significantly affected by third party testing costs.¹⁵

We welcome comments regarding overall testing costs and incremental costs due to third party testing (*i.e.*, how much does moving from a voluntary to a mandatory third party testing regime add to testing costs, in total, and on a per-test basis). In addition, staff seeks comments on the number of booster seat units that typically need to be tested to provide a “high degree of assurance.”

B. Small Importers

1. Small Importers with Noncompliant Booster Seats

There is insufficient information to rule out a significant impact for any of the ten small importers supplying noncompliant booster seats. Whether there is a significant economic impact will depend upon the extent of the changes required to come into compliance and the response of their supplying firms. Any increase in production costs experienced by their suppliers as a result of changes made to meet the mandatory standard may be passed on to the importers. These costs would include expenses associated with coming into compliance with the voluntary standard, as well as costs associated with the attachment test (all of the home-use booster seats supplied by these firms already use straps/belts, but neither of the food-service suppliers appears to do so).

¹⁵ These determinations were made based on an examination of firm revenues from recent Dun & Bradstreet or ReferenceUSAGov reports.

Four of the ten importers with noncompliant booster seats (two import food-service booster seats and two import home-use booster seats) do not appear to have direct ties to their product suppliers. These firms may opt to switch to alternative suppliers (or, in some cases, alternative products) rather than bear the cost of complying with the standard. However, it is unclear whether the costs associated with such a change and/or any resulting changes in revenue would be significant for these firms. Both of the home-use booster seat importers supply numerous other juvenile products from a wide variety of manufacturers worldwide, but revenue is low for one firm (less than \$900,000) and unknown for the other. Discontinuing booster seats from their product line may not be a viable option for the two food-service booster seat suppliers because they provide a range of products for restaurants and limiting their selection could result in lost sales if their customers prefer to buy all of their products from one firm.

The remaining six firms (all of which import home-use booster seats) are directly tied to their foreign suppliers and finding an alternative supply source would not be a viable alternative. However, the foreign suppliers to these firms may have an incentive to work with their U.S. subsidiaries/distributors to maintain an American market presence. It is also possible that these firms may discontinue the sale of booster seats altogether as booster seats are not a large component of their firms' product lines. However, we cannot determine whether exiting the booster seats market would generate significant economic impacts given the lack of sales revenue for booster seats, as well as the lack of revenue data for most of these firms.

2. Third Party Testing Costs for Small Importers

Like manufacturers, all importers will be subject to third party testing and certification requirements, and consequently, will be subject to costs similar to those for manufacturers, if their supplying foreign firm(s) does not perform third party testing. None of the ten small importers of booster seats are believed to comply with the ASTM standard. Moving to third party certification to the requirements of the staff-recommended proposed rule is unlikely to result in significant costs for the four small importers for whom revenue data are available. However, there was no revenue data available for the remaining six small importers; therefore, staff had no basis for examining the size of the impact on those firms.

C. Summary of Impacts

CPSC staff is aware of 29 small firms, 18 domestic manufacturers, 10 domestic importers, and one firm with an unknown supply source, currently marketing booster seats in the United States. Of the 18 small manufacturers, it appears that nine are unlikely to

experience significant economic impacts as a result of the changes required to comply with the staff-recommended proposed rule. However, we could not rule out a significant economic impact on the remaining nine small manufacturers. Staff also could not rule out a significant economic impact on any of the 10 small importers or on the one small firm with an unknown supply source. Therefore, based upon current information, staff cannot rule out a significant economic impact on 20 of the 29 firms (69 percent) operating in the U.S. market for booster seats. Third party testing costs are not expected to significantly impact any firms on their own. Staff requests additional information to better gauge the potential impact the rulemaking could have on small businesses.

VI. Alternatives

There is one alternative available to minimize the economic impact on small entities supplying booster seats while also meeting the statutory objectives. The Commission could set a 12-month effective date, instead of the 6-month effective date used in other 104 rules. A later effective date would reduce the economic impact on firms in two ways. First, firms would be less likely to experience a lapse in production/importation, which could result if they are unable to comply and third party test within the required timeframe. Second, firms could spread costs over a longer time period, thereby reducing their annual costs, as well as the present value of their total costs. Input already received from supplier representatives indicates that the time required could run anywhere from 6 months to 2 years, with most estimates being on the higher end. Staff specifically requests comments on the staff-recommended, 12-month effective date, as well as feedback on how firms would likely address the proposed rule.

Additionally, staff is seeking input on alternative requirements that may reduce the economic impact on small suppliers while increasing (or at least not decreasing) the safety of booster seats. For example, staff requests information on alternative attachment requirements that would address booster seat use in booths or on benches, as well as adult chairs. Staff is also seeking information on alternative locations for certain warnings and information for products that do not come with retail packaging.

VII. Small Business Impacts of the Accreditation Requirements for Testing Laboratories

In accordance with section 14 of the CPSA, all children's products that are subject to a children's product safety rule must be tested by a CPSC-accepted third party conformity assessment body (*i.e.*, testing laboratory) for compliance with applicable children's product

safety rules. Testing laboratories that want to conduct this testing must meet the NOR pertaining to third party conformity testing. NORs have been codified for existing rules at 16 C.F.R. part 1112. Consequently, staff recommends that the Commission propose an amendment to 16 C.F.R. part 1112 that would establish the NOR for those testing laboratories that want to test for compliance with the booster seats final rule. This section assesses the impact of the amendment on small laboratories.

A final regulatory flexibility analysis (FRFA) was conducted as part of the promulgation of the original 1112 rule (78 FR 15836, 15855-58), as required by the RFA. Briefly, the FRFA concluded that the accreditation requirements would not have a significant adverse impact on a substantial number of small laboratories because no requirements were imposed on laboratories that did not intend to provide third party testing services. The only laboratories that were expected to provide such services were those that anticipated receiving sufficient revenue from the mandated testing to justify accepting the requirements as a business decision.

Based on similar reasoning, amending the rule to include the NOR for the booster seats standard will not have a significant adverse impact on small laboratories. Moreover, based upon the number of laboratories in the United States that have applied for CPSC acceptance of the accreditation to test for conformance to other juvenile product standards, we expect that only a few laboratories will seek CPSC acceptance of their accreditation to test for conformance with the booster seats standard. Most of these laboratories will have already been accredited to test for conformance to other juvenile product standards, and the only costs to them would be the cost of adding the booster seats standard to their scope of accreditation, a cost that test laboratories have indicated is extremely low when they are already accredited for other section 104 rules. As a consequence, the Commission could certify that the NOR for the booster seats standard will not have a significant impact on a substantial number of small entities.