



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

This document has been electronically
approved and signed.

DATE: December 31, 2014

BALLOT VOTE SHEET

TO: The Commission
Todd A. Stevenson, Secretary

THROUGH: Stephanie Tsacoumis, General Counsel
Patricia H. Adkins, Executive Director

FROM: Patricia M. Pollitzer, Assistant General Counsel
Mary A. House, Attorney, OGC

SUBJECT: Advance Notice of Proposed Rulemaking for Corded Window Coverings

BALLOT VOTE DUE January 7, 2015

The Office of the General Counsel (OGC) is forwarding for the Commission's consideration a draft advance notice of proposed rulemaking (ANPR) for corded window covering products. The draft ANPR would begin a rulemaking proceeding under the Consumer Product Safety Act (CPSA) to address the risk of strangulation to young children that is associated with corded window covering products. In the attached briefing package from CPSC staff, staff recommends publishing the draft ANPR in the *Federal Register*.

Please indicate your vote on the following options:

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

(Signature)

(Date)

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

(Signature)

(Date)

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

(Signature)

(Date)

IV. Take other action. (Please specify.)

(Signature)

(Date)

Attachment: Draft *Federal Register* Notice: Corded Window Coverings; Advance Notice of Proposed Rulemaking; Request for Comments and Information

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Billing Code 6355-01-P

CONSUMER PRODUCT SAFETY COMMISSION

16 CFR Part Chapter II

[CPSC Docket No. CPSC–2013–0028]

**Corded Window Coverings; Advance Notice of Proposed Rulemaking; Request for
Comments and Information**

AGENCY: Consumer Product Safety Commission.

ACTION: Advance notice of proposed rulemaking.

SUMMARY: The Consumer Product Safety Commission (the Commission or CPSC) has reason to believe that certain cords on window coverings may present an unreasonable risk of injury to young children. This advance notice of proposed rulemaking (ANPR) initiates a rulemaking proceeding under the Consumer Product Safety Act (CPSA). We invite comments concerning the risk of injury associated with corded window coverings, the regulatory alternatives discussed in this notice, the costs to achieve each regulatory alternative, the effect of each alternative on the safety, cost, utility, and availability of window coverings, and other possible ways to address the risk of strangulation posed to young children by window covering cords. We also invite interested persons to submit an existing standard or a statement of intent to modify or develop a voluntary standard to address the risk of injury described in this notice.

DATES: Written comments in response to this notice must be received by **[insert date that is 60 days after publication]**.

ADDRESSES: You may submit comments, identified by Docket No. CPSC–2013–0028, by any of the following methods:

Electronic Submissions

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Submit electronic comments in the following way:

Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.

The Commission does not accept comments submitted by electronic mail (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 in the following way:

Mail/Hand delivery/Courier to: Office of the Secretary, Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814; (301) 504-7923.

Instructions: All submissions received must include the agency name and docket number for this 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 electronically. 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>.

FOR FURTHER INFORMATION CONTACT: Rana Balci-Sinha, Project Manager, Directorate for Engineering Sciences, Consumer Product Safety Commission, National Product Testing and Evaluation Center, 5 Research Place, Rockville, MD 20850; 301-987-2584; rbalcisinha@cpsc.gov.

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SUPPLEMENTARY INFORMATION:

I. Background

The purpose of this ANPR is to collect information related to a potential mandatory rule to address the risk of strangulation to young children on window covering cords. On October 8, 2014, the Commission granted a petition to initiate a rulemaking to develop a mandatory safety standard for window coverings. The petition sought to prohibit window covering cords when a feasible cordless alternative exists. When a feasible cordless alternative does not exist, the petition requested that all window covering cords be made inaccessible by using passive guarding devices. The Commission granted the petition and directed staff to prepare this ANPR seeking information and comment on regulatory options for a mandatory rule to address the risk of strangulation to young children on window covering cords.

This ANPR is based on information from staff's December 31, 2014 Briefing Memorandum on Recommended Advance Notice of Proposed Rulemaking for Corded Window Coverings (ANPR Briefing Memorandum), available at [\[REDACTED\]](#), as well as CPSC staff's October 1, 2014 Staff Briefing Package in Response to the Petition CP 13-2, Requesting Mandatory Safety Standards for Window Coverings (Petition Briefing Package), available at: <http://www.cpsc.gov/Global/Newsroom/FOIA/CommissionBriefingPackages/2015/PetitionRequestingMandatoryStandardforCordedWindowCoverings.pdf>.

Based on CPSC's incident data, the Commission believes that certain window covering cords may present an unreasonable risk of injury, specifically strangulation, to young children. The Commission is aware of 184 reported fatal strangulations and 101 reported nonfatal strangulations from 1996 through 2012 involving window covering cords among children 8 years and younger. Petition Briefing Package, Tab B. Using separate data from the National

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Center for Health Statistics (NCHS) and a CPSC study, CPSC estimates that on average, at least 11 fatal strangulations related to window covering cords occurred per year in the United States from 1999 through 2010, among children under 5 years old. CPSC finds no observable trend in the data. *Id.*

CPSC evaluated the risk of a fatal or nonfatal strangulation to children involving window covering cords. Based on various CPSC data sources (*e.g.*, newspaper clippings, consumer complaints, death certificates purchased from states, medical examiners' reports, and in-depth investigation (IDI) reports by CPSC staff), from 1996 through 2012, CPSC found, on average, about 11 reported fatal strangulations, and on average, about six reported nonfatal strangulation incidents per year for children 8 years and younger. *Id.*

Tab E of staff's Petition Briefing Package analyzed the current voluntary standard for window coverings, ANSI/WCMA A100.1-2014, *American National Standard for Safety of Corded Window Covering Products* (ANSI/WCMA standard or voluntary standard). CPSC engineering staff found that the current version of the ANSI/WCMA standard would not effectively address 57 percent of the 249 window covering cord incidents investigated by CPSC staff. Two types of cords on window coverings continue to present a hazard to children: pull cords and continuous loops.

The Commission invites the public to review the information and ideas presented in this ANPR and to submit information and comments that would assist the Commission as it considers regulatory alternatives to reduce the strangulation risk to young children associated with corded window covering products.

II. Window Covering Products

Window coverings comprise a wide range of products, including shades, blinds, curtains,

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and draperies. In general terms, “hard” window coverings, composed of slats or vanes, are considered blinds; and “soft” window coverings that contain a continuous roll of material are considered shades. Both blinds and shades may have inner cords that cause a motion, such as raising, lowering, traversing, or rotating the window covering to achieve the desired level of light control. Curtains and draperies do not contain inner cords but may be operated by a continuous loop cord or beaded chain. The cord or loop that is manipulated by the consumer to operate the window covering is called an “operating cord” and may be a pull cord (single cord or multiple cords) or continuous loops. Cordless window coverings are products designed to function without an operating cord but may contain inner cords. Petition Briefing Package, Briefing Memorandum at 9.

A. *Common Window Covering Products*

Following is a description of the most common window covering products and the types of cords associated with incidents for each window covering product. Cord types are based on CPSC’s review of the 249 IDIs completed by staff on window covering incidents. Petition Briefing Package, Briefing Memorandum Appendix, and Tab B at 83-84.

1. ***Horizontal blind*** (Figure 1): Horizontal blinds are made using horizontal slats. Slats vary in their length and width and are manufactured using metal, vinyl, wood, fabric, and other materials. Horizontal blinds are typically raised and lowered using pull cords. Pull cords are part of the inner cords that users interact with to raise or lower the blind. Inner cords are attached to the bottom rail and threaded through the horizontal slats to raise and lower them, as well as to adjust the slats for lighting. Slats can be tilted with various mechanisms, including tilt cords, a tilt wand, or in the case of a blind with no operating cords, by using the bottom rail. Cords associated with horizontal blind incidents include: continuous loop cord/beaded-chain

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(free-standing, *i.e.*, not mounted on a tension device), inner cord, pull cord (with loops or long cords), and tilt cord.

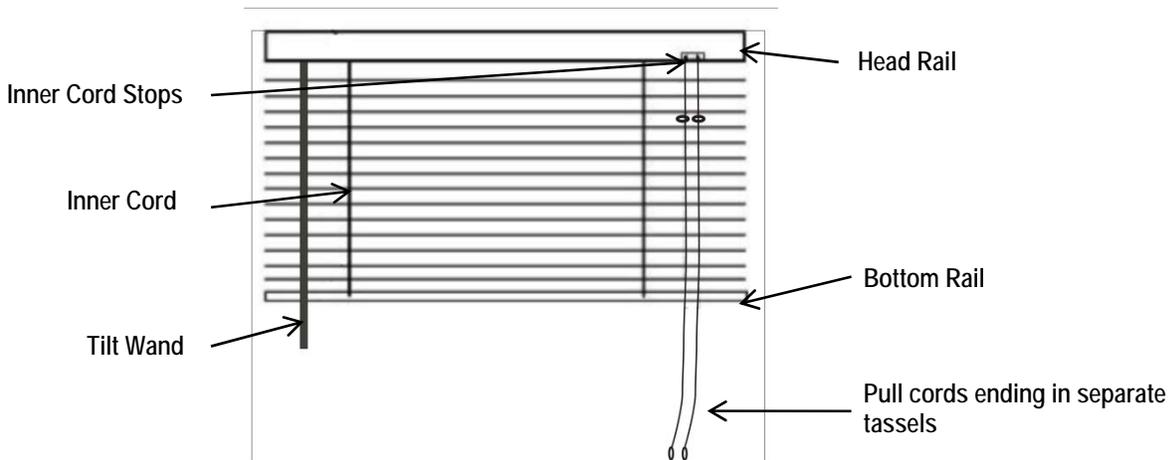


Figure 1. Horizontal Blind

2. **Cellular shade** (Figure 2): Cellular shades are made of multiple layers of material that are formed into tubes or cells in a horizontal orientation. Cellular shades, often referred to as honeycomb shades, are constructed so that an air pocket, which mimics the shape of a bee's honeycomb, is formed in the center of the shade. Cellular shades are typically raised and lowered using an operating cord. Inner cords that assist in raising and lowering the blind are between the layers of material and are visible from the side openings only. Cords associated with cellular shade incidents include: continuous loop cord/beaded-chain (free-standing) and pull cord (with loops, cord connectors, or long cords).

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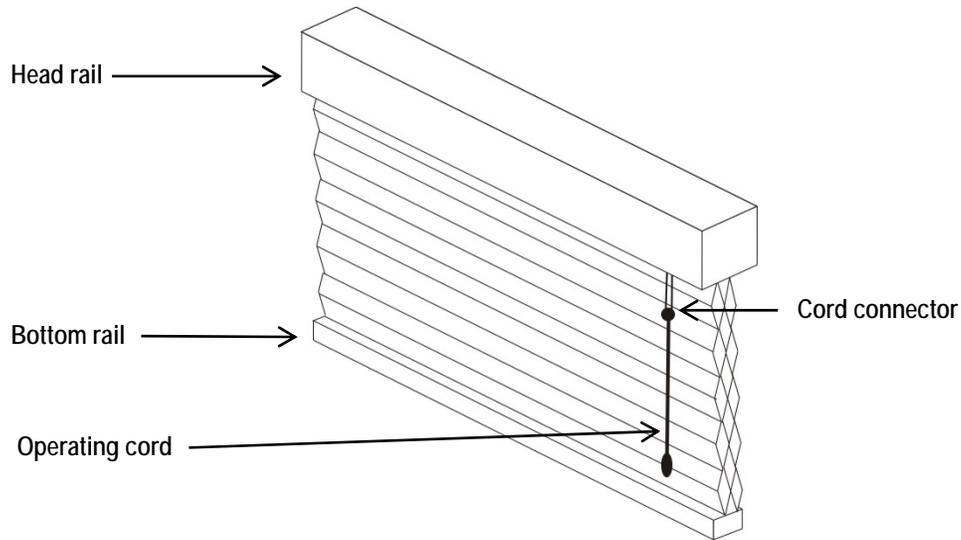


Figure 2. Cellular shade

3. ***Pleated shade*** (Figure 3): Pleated shades are made of pleated or folded material in a horizontal orientation. The pleated material can be raised and lowered similar to cellular shades. Unlike cellular shades, pleated shades do not have an air pocket. Cords associated with pleated shade incidents include: continuous loop cord/beaded-chain (free-standing) and pull cord (with loops or long cords).

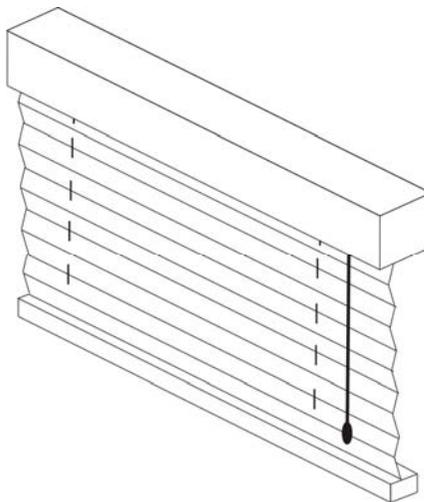


Figure 3. Pleated shade

4. ***Roller shade*** (Figure 4): Roller shades are comprised of a roller, a means of

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supporting the roller, and flexible sheets of material attached to the roller. When a roller shade is raised, the material is gathered on the roller located at the top of the shade. Cords associated with roller shade incidents include: continuous loop cord/beaded-chain (free-standing).

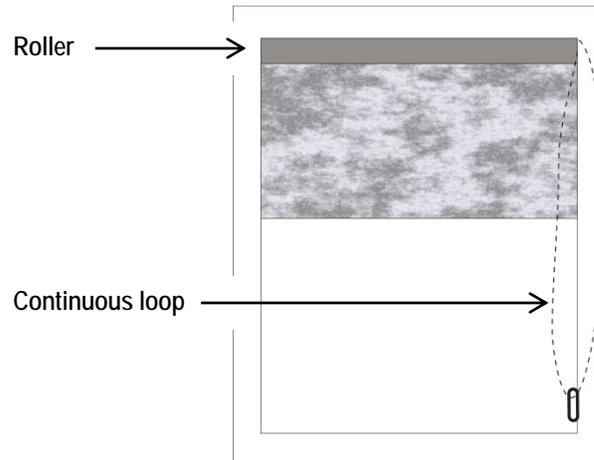


Figure 4. Roller shade

5. **Roll-up blind** (Figure 5): Roll-up blinds are made of flexible material, which rolls up from the bottom of the blind when the blind is raised. Roll-up blinds are typically raised and lowered using pull cords. Cords associated with roll-up blind incidents include: pull cord (with loops or long cords) and lifting loop (wraps around the bottom of the product and enables the shade to roll up from bottom to top.).

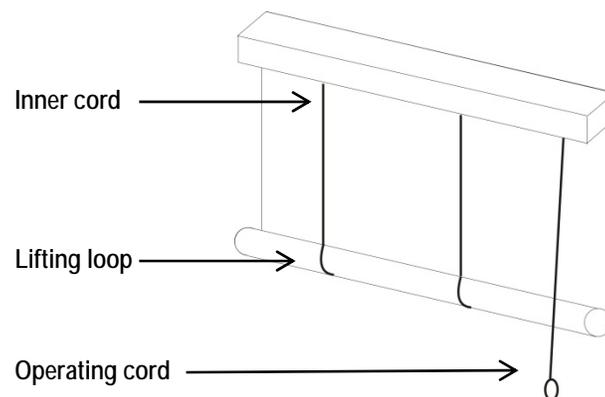


Figure 5. Roll-up blind

6. **Roman shade** (Figure 6): Roman shades are made of fabric or other material that is suspended from a head rail. As the shade is raised, the material gathers from the bottom

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upward, toward the head rail. Cords associated with Roman shade incidents include: continuous loop cord/beaded-chain (free-standing), inner cords, and pull cord (with loops or long cords).

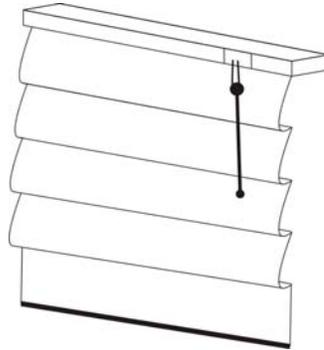


Figure 6. Roman shade

7. **Vertical blind** (Figure 7): Vertical blinds are made using slats in a vertical orientation that can be stacked to one or both sides of the head rail. The head rail houses mechanisms that allow slats to traverse or rotate or both. Cords associated with vertical blind incidents include: continuous loop cord/beaded-chain (free-standing).

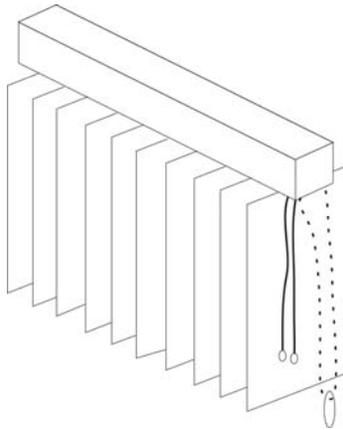


Figure 7. Vertical blind

8. **Drapery/Curtain** (Figure 8): Draperies and curtains are usually made of a fabric material that hangs in a window or other opening (*e.g.*, sliding door). Cords can sometimes be used to open and close draperies and curtains. Cords associated with drapery and curtain

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incidents include: continuous loop cord/beaded-chain (free-standing).

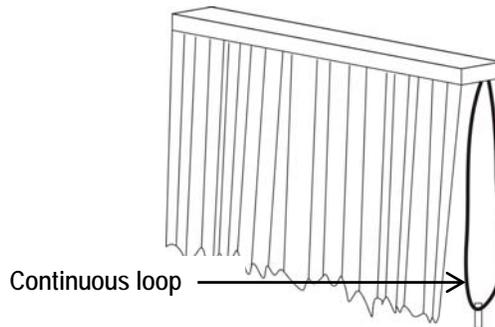


Figure 8. Drapery/Curtain

B. Window Covering Market

Based on 2011 data, more than 350 manufacturers and more than 1,800 retailers of window coverings operate in the United States. Petition Briefing Package, Tab G. Three manufacturers reportedly accounted for almost 70 percent of dollar sales in the U.S. window coverings market in 2008. Retail prices for corded window coverings have a wide range. The type of material, brands, and operating mechanisms affect the price. Average prices for window coverings range from about \$50 to \$440 for shades and from about \$10 to \$360 for blinds. Retail prices for extremely large and custom-made window coverings can be as high as \$3,000.

The Commission obtained window covering market information from a study conducted by the consulting firm D&R International (D&R, 2013).¹ The Window Covering Manufacturers Association (WCMA), the organization that developed the existing voluntary standard, engaged D&R to conduct the study. D&R received funding for the study from WCMA and the U.S. Department of Energy (DOE), through Lawrence Berkeley National Laboratory (LBNL). Based on information from the D&R study, shipments of residential window coverings from

¹ D&R International, Ltd. (September 2013). *Residential windows and window coverings: A detailed view of the installed base and user behavior (DOE/EE-0965)*. U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Washington DC. September, 2013. Available at:

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manufacturers may have amounted to about 100 million to 150 million units in the United States in 2012. D&R based these estimates on information (including shipment, pricing, retail and manufacturing data) provided by WCMA members, U.S. Census Bureau reports of vinyl blind imports, and data collected from a WCMA-funded Internet survey of U.S. households, which D&R also conducted as part of the study. WCMA participated in designing and implementing the Internet survey. D&R developed a research plan in consultation with WCMA, with input from LBNL. DOE, through LBNL, provided funding to analyze the Internet survey and prepare the report.² Augmenting the D&R estimates with U.S. housing statistics, more than 1 billion window coverings may be in use in U.S. homes. Petition Briefing Package, Tab G at 148-152.

The Commission does not have precise information on sales of cordless window coverings (or window coverings with inaccessible cords), but based on CPSC discussions with industry participants and review of a major retailer's website, sales of cordless window coverings may amount to as much as 25 percent of the market.

CPSC compared the retail sales prices of cordless and corded products and found that manually operated cordless window coverings may cost about \$15 to \$130 more than similar corded window coverings. The observed prices of motor-operated window coverings are more than \$100 higher than the prices of corded window coverings, and the price differences can exceed \$300. Some wand-operated vertical blinds cost about the same as corded versions; others appear to cost about \$10 more than corded vertical blinds. The Commission has insufficient information to determine how the costs or retail prices of safer window coverings will change over time. *Id.*

III. The Risk of Injury

<http://energy.gov/eere/buildings/downloads/residential-windows-and-window-coverings-detailed-view-installed-base-and>

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A. *Incident Data Overview*

CPSC estimates that a minimum of 11 fatal strangulations related to window covering cords, on average, occurred per year in the United States from 1999 through 2010, among children under 5 years old, based on National Center for Health Statistics (NCHS) data and a CPSC study.³ Petition Briefing Package, Tab B. Additionally, CPSC's emergency department-treated injury data (National Electronic Injury Surveillance System or NEISS) demonstrate that from 1996 through 2012, an estimated 1,590 children received treatment for injuries resulting from entanglements on window covering cords based on NEISS data. *Id.* at 80-82.

CPSC also receives incident data through newspaper clippings, consumer complaints, death certificates purchased from states, medical examiners' reports, and IDI reports. Using data from these sources, CPSC found a total of 285 reported fatal and nonfatal strangulation incidents from January 1996 through December 2012 involving window coverings among children 8 years of age or younger. These 285 incidents do not constitute a statistical sample of known probability and do not necessarily include all window covering, cord-related strangulation incidents that occurred during that period. Given that these reports are anecdotal and reporting is incomplete, CPSC strongly discourages drawing any inferences based on the year-to-year increase or decrease shown in the reported data. *Id.*

Of the 285 incidents, 184 resulted in a fatality. Among the nonfatal incidents, 19 involved hospitalizations (7 percent). The long-term outcomes of these 19 injuries varied from a scar around the neck, to quadriplegia, to permanent brain damage. In addition, 67 incidents (24 percent) involved less-severe injuries, some of which required medical treatment but not hospitalization. In the remaining 15 incidents (5 percent), a child became entangled in a window

² *Ibid.*

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covering cord but was able to disentangle him or herself from the cord and escape injury.

Of the 285 total reported incidents involving window covering cords, CPSC staff reviewed the completed IDIs for 249 incidents. Table 1 presents a breakdown of all 249 investigated incidents, by type of window coverings and type of cord.

**Table 1: Distribution of Investigated Incidents by
Type of Window Covering and Associated Cord
1996-2012**

	Pull cord	Continuous loop cord/ beaded-chain	Inner cord	Lifting loop	Tilt cord	Unknown	Total (Percentage)
Horizontal	90	3	23	--	2	13	131 (53%)
Vertical	--	41	--	--	--	2	43 (17%)
Roman	2	1	24	--	--	--	27 (11%)
Curtain/drapery	--	13	--	--	--	1	14 (6%)
Cellular	5	5	--	--	--	--	10 (4%)
Roller	--	6	--	--	--	--	6 (2%)
Roll-up	2	--	--	3	--	--	5 (2%)
Unknown	2	1	--	--	--	10	13 (5%)
Total	101	70	47	3	2	26	249 (100%)

Source: CPSC In-Depth Investigation File (INDP).

Of the 249 incidents investigated by CPSC staff, 170 involved a fatality. Ninety-two (54 percent) of these fatal incidents involved a horizontal blind, 36 (21 percent) involved a vertical blind, 14 (8 percent) involved a curtain/drapery, eight (5 percent) a Roman shade, five (3 percent) a cellular shade, four (2 percent) a roll-up shade, and two (1 percent) a roller shade. Staff was unable to identify the window covering type in 9 (5 percent) of the 170 fatalities. *Id.* at 84-85.

B. Physiology of Strangulation and Associated Injuries

Young children are at risk of strangulation on corded window coverings. Strangulation due to mechanical compression of the neck involves obstruction of the airway passage and

3 N. Marcy, G. Rutherford. "Strangulations Involving Children Under 5 Years Old." U.S. Consumer Product Safety Commission, December 2002.

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occlusion of blood vessels in the neck. Petition Briefing Package, Tab C. Strangulation can occur when a child's head or neck becomes entangled in any position, even in situations where the body is fully or partially supported, in the event that a lateral pressure is sustained at a level resulting in vascular occlusion. *Id.* at 94.

Strangulation can rapidly progress to anoxia, associated cardiac arrest, and death. Permanent, irreversible damage can occur if the delivery of oxygen to tissues is reduced. The severity of oxygen deprivation ultimately governs the victim's chance for survival or the degree of neurological damage. Neurological damage may range from amnesia, loss of cognitive abilities due to hypoxic-ischemic injury to the hippocampus, mobility limitations, and loss of function, to long-term vegetative state. Experimental studies show that 2 kg (4.4 lbs.) of pressure on the neck may occlude the jugular vein⁴ and 3–5 kg (7–11 lbs.) may occlude the carotid artery.⁵ Minimal compression of any of these vessels can lead to unconsciousness within 15 seconds and death in 2 to 3 minutes (Digeronimo and Mayes, 1994; Hoff, 1978; Iserson, 1984; Polson, 1973).⁶ The vagus nerve, responsible for maintaining a constant heart rate, is also located in the neck, in close proximity to the jugular vein and carotid artery. If the vagus nerve is compressed, cardiac arrest can result, due to mechanical stimulation of the carotid sinus-vagal reflex. Petition Briefing Package, Tab C at 94-95.

The majority of incidents involving window covering cords resulted in death (184 of 285 incidents reviewed). Of the 19 incidents that required hospitalization, nine patients suffered

4 Brouardel P. *La pendaison, La strangulation, La suffocation, La submersion*. JB Bailliere et fil, Paris, France, 1897; pp. 38-40.

5 *Ibid.* and Polson CJ. Hanging In: Polson CJ and Gee DJ (eds.) *Essentials of forensic medicine* Oxford England, 1973 371-404.

6 Digeronimo RJ1, Mayes TC. Near-hanging injury in childhood: a literature review and report of three cases. *Pediatr Emerg Care*. 1994 Jun; 10(3):150-6; Hoff BH. Multiple organ failure after near-hanging. *Crit Care Med* 1978; 6:366-9. Howell MA; Iserson, K.V. Strangulation: A review of ligature, manual and postural neck compression injuries. *Ann. Emerg. Med.* 13:179-185, 1984; Polson CJ. Hanging In: Polson CJ and Gee DJ (eds.) *Essentials of forensic medicine* Oxford England, 1973 371-404.

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severe neurological outcomes, such as cerebral edema, coma, loss of cognitive abilities, a loss of function or mobility, and quadriplegia. Some patients required intensive care, monitoring, lifelong care, and therapy. Four of the entanglement incidents occurred on the child's arm or wrist and did not involve the neck. In 78 incidents involving the neck that were reported as minor or no injury, the child was found entangled in a cord or with the cord wrapped around the neck. In some incidents, the cord was wrapped so tightly that the child turned blue and had red marks or rope burns visible on the neck. Three children suffered temporary airway obstruction and were subsequently taken to the hospital. If the child had not been released from the cord, all of these nonfatal incidents could have had a more serious and even fatal outcome. *Id.* at 95.

C. Population at Risk of Strangulation

Corded window covering incidents involve children from about 7 months to 8 years old. Petition Briefing Package, Tab C at 95. Incident data demonstrate that hazard scenarios involving window covering cords are consistent with child development milestones. Children go from total dependence on others to independence in their first 5 years of life. Petition Briefing Package, Tab D. Starting from around 3 months of age, children begin to grasp objects placed in their hands. By 6 months of age, most children master reaching and grasping objects within their reach. Children learn to stand by holding onto an object starting at around 8 months of age, and a month later, they can stand. At around 10 months of age, children learn to stand without holding on to an object. Between 12 to 18 months of age, children progress from walking, to running, to walking up stairs, to climbing. As children gain new skills (*e.g.*, sitting, standing, walking, running, climbing), they want to use and perfect those skills.⁷ The window covering cord incident data show that children climbed on beds, chairs, tables, and other furniture to

⁷ Frankenburg, W.K., Dodds, J., Archer, P. et al.: The DENVER II Technical Manual 1990, Denver Developmental Materials, Denver, Co.

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interact with the window coverings. In some incidents, children were reportedly imitating superheroes or using the beaded chains as necklaces. Petition Briefing Package, Tab D at 101-102.

Parents are advised to encourage children to start taking care of themselves beginning at around age 2 years so that the children can learn independence and self-discovery. During these times of independence and exploration, children have less supervision. The degree of appropriate supervision is strongly linked to developmental level. Research shows that for preschool (birth to 4 years), constant supervision is required, except when children are in rooms in the home that are perceived as safe (living room/bedroom) or in rooms that are deemed fairly safe (bathroom/garage/kitchen).⁸ Children's bedrooms and living or play rooms are considered by caregivers to be the safest rooms in the home. A review of the incidents reported to CPSC shows that bedrooms, living rooms, family rooms, or TV rooms were the locations where most incidents occurred. These are rooms that caregivers perceive to be the safest rooms in the home, and thus, caregivers may be inclined to leave children alone in these rooms. Petition Briefing Package, Tab D at 102-103.

Research demonstrates that the more familiar caregivers are with a product, the lower their recognition is of the product's hazards.⁹ Increased familiarity, ease and frequency of use, and low price of a product reduce the likelihood that people will read warning labels.

Consumers are highly familiar with window coverings and interact with window coverings daily.

Even though no specific studies or surveys related to the use of safety devices for window coverings exist, research shows that the rate of compliance with instructions is lower when more

⁸ Peterson, L., Ewigman, B., and Kivlahan, C., (1993) "Judgments Regarding Appropriate Child Supervision to Prevent Injury: The Role of Environmental Risk and Child Age." *Child Development*, 64, 934-950.

⁹ Vredenburg, A.G., & Zackowitz, I.B., (2006). Expectations. In M. S. Wogalter (Ed.), *Handbook of warnings* (pp. 345-354). Mahwah, NJ: Lawrence Erlbaum Associates.

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effort and time (cost of compliance) are required to comply with the instructions.¹⁰

In some incidents, parents had seen the warning labels and were aware of the hazards of hanging cords and continuous loops. Parents used cord cleats, tied the cords together, or used other means to keep the cords out of reach of the child; however, the child was still able to access the cords and strangle. In other cases, parents did not use any safety devices. One reason for not using the safety devices is that the parents may have assumed the cords were not a problem because their child had not shown any interest in the window blind cords. In some incidents, safety devices, such as tie-down devices or cord cleats, were not used when the parents did not perceive a threat to the child. In a few cases, parents reported that they had observed their child's interaction with cords but did not think the cords were a danger. Petition Briefing Package, Tab D at 103-105.

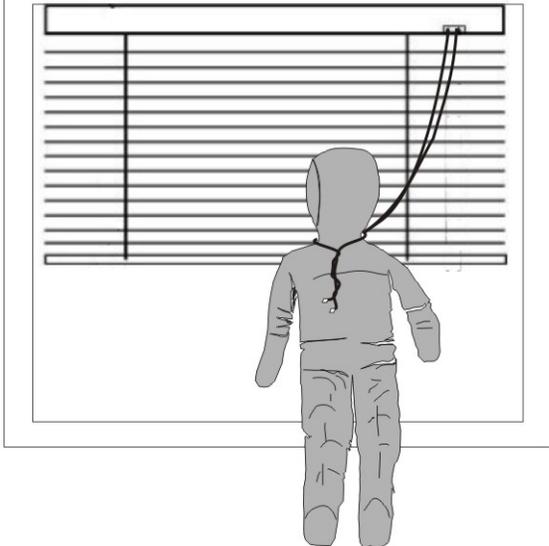
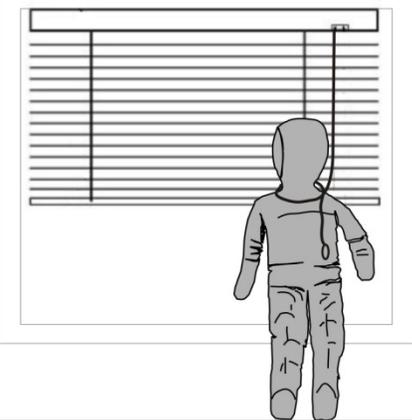
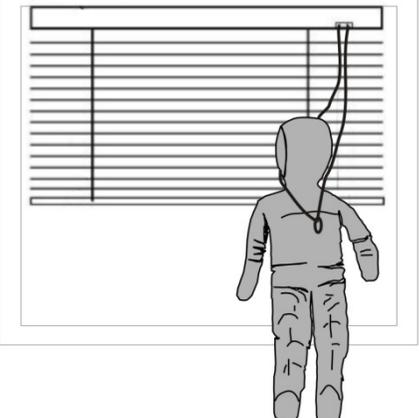
The Commission concludes that if cords are accessible and hazardous, window coverings will present a risk of strangulation to young children. Children cannot be supervised 100 percent of the time, and they can strangle in a few minutes. Children will continue to explore their environment and interact with accessible window covering cords even when parents try to be conscientious and use safety devices on window coverings. *Id.* at 106.

D. Hazard Scenarios Associated with Corded Window Covering Products

Table 2 depicts the nine hazard scenarios CPSC staff found when reviewing 249 IDIs related to corded window covering incidents.

¹⁰ DeJoy, D.M., (1999). Attitudes and Beliefs. In M. S. Wogalter, D. M. DeJoy, & K. R. Laughery (Eds.), *Warnings and risk communication* (pp. 189–219). Philadelphia: Taylor & Francis.

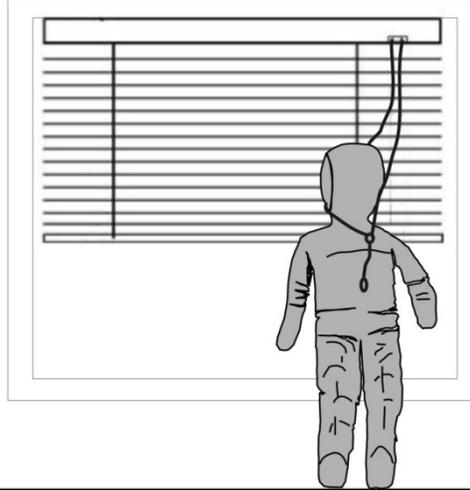
Table 2: Hazard Scenarios Associated with Corded Window Covering Products

Scenario	Demonstration
<p>Loose pull cords can get knotted or tangled and create a loop in which children can strangle.</p> <p>Blinds or shades with multiple cords can create this hazard.</p>	<p>1. Loops created by knotted or tangled pull cords.</p> 
<p>Children can wrap one or more long pull cords around their necks and strangle.</p> <p>Blinds and shades with single or multiple cords can create this hazard.</p>	<p>2. One or more pull cords (or tilt cords) wrapped by the child around his/her neck.</p> 
<p>When pull cords end in a single tassel, children can strangle in the loop above the tassel.</p> <p>Blinds or shades with pull cords ending in one tassel can create this hazard.</p>	<p>3. Loop above a single tassel of the pull cords.</p> 

4. Loop above a stop ball of the pull cords.

Children can insert their heads into the loop above the stop ball (or cord connector).

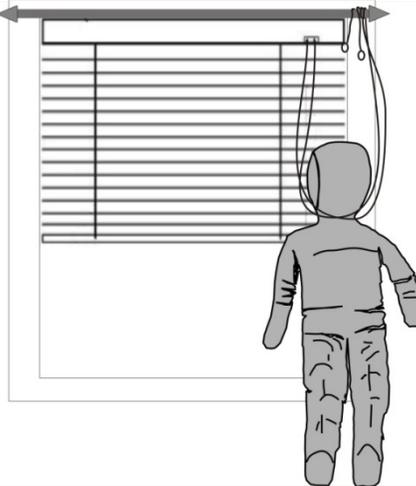
Blinds or shades with stop ball (or cord connector) can create this hazard.



5. Loop created when pull cord was tied to another object.

Children can insert their heads and strangle in the loop created by tying the pull cord to another object, such as a curtain rod creating a U-shaped opening.

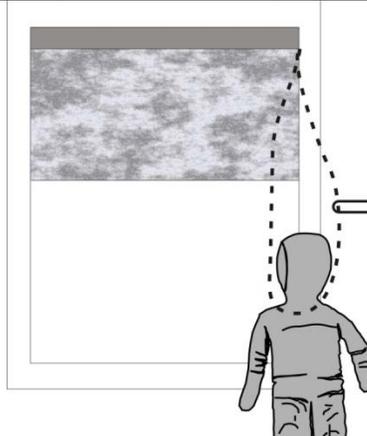
Blinds and shades with single or multiple cords can create this hazard.



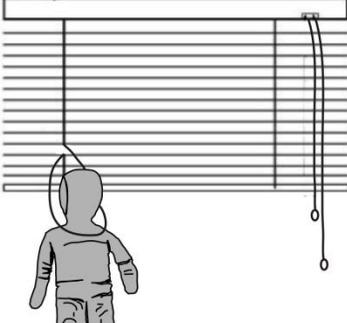
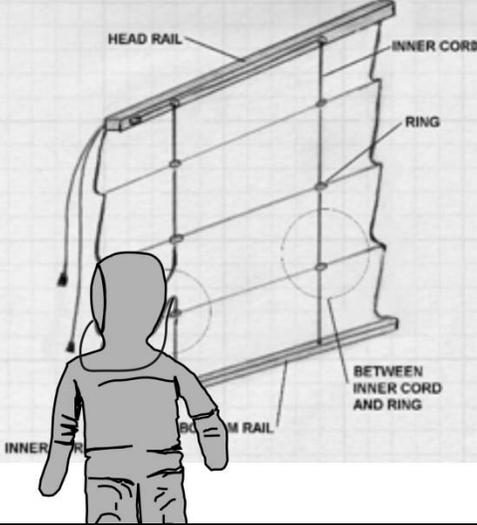
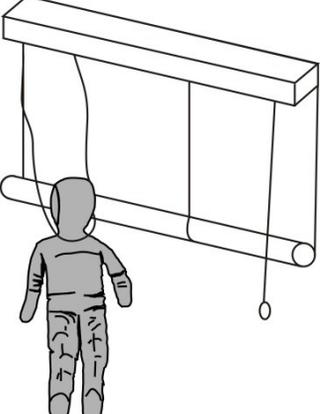
6. Continuous loop that is free hanging.

Children can insert their heads into the cord loop or beaded chain loop, which is not kept taut with a tension device.

Vertical blinds and shades that operate with continuous loop system can create this hazard.



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<p>7. Loop created by pulling an inner cord of a horizontal blind.</p>	
<p>Children can pull the inner cord of a horizontal blind and create a large enough loop in which they can insert their heads and strangle.</p>	 <p>A line drawing of a horizontal blind with a child's head and shoulders inside a large loop of the inner cord. The child is standing below the blind, and the loop is positioned in front of the slats.</p>
<p>8. Opening between the Roman shade inner cord and the shade material.</p>	
<p>Children can insert their heads between the inner cord of a Roman shade and the shade material and strangle.</p>	 <p>A line drawing of a Roman shade with a child's head and shoulders between the inner cord and the shade material. The diagram is labeled with 'HEAD RAIL', 'INNER CORD', 'RING', 'BETWEEN INNER CORD AND RING', and 'BOTTOM RAIL'. The child is standing in front of the shade, and the head is wedged between the cord and the fabric.</p>
<p>9. Lifting loop detached from roll-up shade</p>	
<p>Children can insert their heads into the lifting loop that slides off the roll-up shade and strangle.</p>	 <p>A line drawing of a roll-up shade with a child's head and shoulders inside a loop of the lifting cord that has detached from the shade. The child is standing below the shade, and the loop is positioned in front of the shade's roller.</p>

Petition Briefing Package, Briefing Memorandum Appendix and Tab E.

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IV. Efforts to Address the Hazard Associated with Corded Window Coverings

A. Development of a Voluntary Standard

1. Performance Requirements

CPSC has been working with the window covering industry to address the hazards associated with corded window covering products for many years. Petition Briefing Package, Briefing Memorandum at 14-15, Table E, and Tab F. In 1995, CPSC staff began working with the WCMA on an ANSI/WCMA standard to address accessible cords on window coverings. WCMA published the first version of the ANSI/WCMA standard in 1996. The 1996 standard sought to prevent strangulation incidents created by looped cords by requiring either: (a) separate operating cords, or (b) a cord release device on multiple cords ending in one tassel. The standard also required a tension device that would hold the cord or bead loop taut when installed according to manufacturer's instructions.

In 2001, CPSC staff sent a letter to the WCMA asking for revisions to the 1996 standard, including the addition of inner cord stops and the elimination of free-hanging cords or bead chains longer than the neck circumference of a fifth percentile 7- to 9-month-old child. In January 2002, CPSC staff sent a similar request by letter to WCMA. In August 2002, the published ANSI/WCMA standard required inner cord stops. In 2007, the published ANSI/WCMA standard required that tension devices partially limit the consumer's ability to control the blind if the tension device is not properly installed.

In 2009, WCMA published a provisional voluntary standard specifying descriptive requirements for Roman shades. CPSC staff sent a letter to the WCMA underscoring that the descriptive requirements still allowed inner cords to be accessible. In September 2010, WCMA published a stronger performance-based standard addressing Roman shade inner cords as another

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provisional standard. In November 2010, CPSC held a public meeting and WCMA announced that WCMA would establish a steering committee to oversee the activities of six task groups, including one intended for pull cords and another for continuous loops. At the CPSC public meeting, WCMA reiterated its intent to minimize the risks associated with pull cords and continuous loops and to draft revisions to the voluntary standard for balloting by the end of October 2011.

On December 20, 2011, the WCMA balloted proposed revisions to the voluntary standard. On February 6, 2012, staff sent WCMA a letter providing comments on the proposed revision. In these comments, CPSC staff reiterated that the hazardous loop determination should be made for all cords and that the length of an accessible operating cord should not be longer than the neck circumference of the youngest child at risk. In addition, staff raised concerns about the inability of tension devices to eliminate effectively or reduce significantly the risk of strangulation under certain foreseeable-use conditions.

In November 2012, the WCMA announced the approval of the 2012 version of the ANSI/WCMA standard, which includes: (1) requirements for durability and performance testing of the tension/hold down devices, including new requirements for anchoring; (2) specific installation instructions and warnings; (3) new requirements for products that rely on “wide lift bands” to raise and lower window coverings; (4) requirements for a warning label and pictograms on the outside of stock packaging and merchandising materials for corded products; and (5) expanded testing requirements for cord accessibility, hazardous loop testing, roll-up style shade performance, and durability testing of all safety devices.

WCMA approved a revised ANSI/WCMA standard on July 21, 2014.¹¹ Section 4.3 of the 2014 ANSI/WCMA standard specifies that window coverings with an exposed operating

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cord or continuous loop operating system shall meet one of the following requirements:

- 4.3.1: Product shall have no accessible operating cords
- 4.3.2: Product shall have one or more separate operating cords
- 4.3.3: Product shall contain a cord release device in the loop or head rail
- 4.3.4: Product shall contain a permanently attached cord retraction device
- 4.3.5: Product shall contain a cord shear device
- 4.3.6: Product shall contain a cord shroud device
- 4.3.7: Product shall contain a cord tension device
- 4.3.8: Product shall contain a loop cord or bead chain-restraining device
- 4.3.9: If the product requires a cord connector, *i.e.* stop ball, the exposed loop above the cord connector shall be limited to less than 3 inches below the bottom of the cord lock when the bottom rail is fully lowered.

Thus, the ANSI/WCMA standard allows for separate operating cords, cord release devices, cord retractors, cord shrouds, cord tensioners, and loop/bead chain restraining devices.

2. Warning Labels

In addition to performance requirements, the ANSI/WCMA standard requires a number of warning labels and hangtags on window coverings, all of which are accompanied with a pictogram. ANPR Briefing Memorandum at 5.

B. Substantial Compliance with the Voluntary Standard

According to the WCMA, manufacturers of window coverings are in substantial compliance with the voluntary standard. Beyond WCMA's comments, CPSC has no data on the extent of compliance and cannot estimate the proportion of annual sales of window covering products that comply. CPSC has some anecdotal information on product compliance and

11 Changes to the descriptive text found in the ANSI/WCMA Standard, Appendix E, Figure E1, Row 3.

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incident hazard patterns that lends support to WCMA's contention that products substantially comply with the voluntary standard. For example, the 1996 version of the standard required that pull cords have separate tassels or a breakaway tassel to reduce the hazard with the loop above a single tassel. Among the incidents associated with the loop above a single tassel, staff's review of incidents showed that only one product out of 14 products involved in incidents was manufactured after the 1996 standard went into effect and did not comply with the requirement. Petition Briefing Package, Briefing Memorandum at 18.

C. Engineering Staff's Assessment of ANSI/WCMA Standard

1. Performance Requirements

For the Petition Briefing Package, the Division of Mechanical Engineering (ESME) reviewed the incident data to determine whether the 2014 version of the ANSI/WCMA standard would address the hazards presented in the 249 IDIs reviewed by staff. Petition Briefing Package, Tab E. According to ESME staff's assessment, the 2014 version of the ANSI/WCMA standard addresses the hazards in 25.7 percent (64/249) of the investigated incidents, while hazards reported in 57 percent (141/249) are not addressed by the ANSI/WCMA standard. Insufficient information was available to draw any conclusions for the remaining 17.7 percent (44/249) of investigated incidents. *Id.* at 123-124.

Table 3 summarizes the hazard types identified in the 249 IDIs reviewed by CPSC staff, and ESME's assessment of the hazard addressability with the current 2014 version of the voluntary standard. An Appendix to Tab E of the Petition Briefing Package includes more detailed descriptions of each of these hazard scenarios.

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Table 3: Addressability of the Hazards with the 2014 ANSI/WCMA Standard

Entanglement Mechanism (hazard scenario in Table 2)	Number of Incidents	Investigated IDIs (%)	Section of the standard related to the hazard	Conclusion
<i>1. Entanglement from pull cords</i>	<i>69</i>	<i>27.7</i>		<i>Not addressed</i>
	<i>14</i>	<i>5.6</i>		<i>Addressed</i>
Entanglement in a loop created by knotted or tangled pull cord (hazard scenario 1)	38	15.3	Section 4.3.2 allows multiple cords in unspecified lengths	Not addressed
Entanglement in one or more long cords, which the child wrapped around the neck (hazard scenario 2)	25	10.0	Sections 4.3.2 and 4.3.9 allow accessible free hanging operating cords.	Not addressed
Entanglement in a loop above a single tassel of the cord (hazard scenario 3)	14	5.6	Sections 4.3.2 and 4.3.3 require either separate cords or cords with release devices in the loop	Addressed
Entanglement in a loop above the stop ball of the cord (hazard scenario 4)	4	1.6	Section 4.3.9 allows for an accessible loop when the bottom rail is fully raised.	Not addressed
Entanglement in a loop created when pull-cord was tied to another object, usually on the wall (hazard scenario 5)	2	0.8	Section 4.3.2 allows unspecified length of cords	Not addressed
<i>2. Entanglement in a continuous loop cord (hazard scenario 6)</i>	<i>70</i>	<i>28.1</i>	<i>Section 4.3.7 requires a cord tension device that will at least partially prevent the operation of the window covering, when not installed but still allows some operability.</i>	<i>Not addressed</i>
<i>3. Entanglement from inner cords (hazard scenarios 7 and 8)</i>	<i>47</i>	<i>18.9</i>	<i>Section 4.4 addresses accessibility and hazardousness of inner cord loops</i>	<i>Addressed</i>
<i>4. Entanglement in the lifting loop of a roll-up shade (hazard scenario 9)</i>	<i>3</i>	<i>1.2</i>	<i>Section 4.4.5 addresses the accessible lifting loops of a roll-up style shade</i>	<i>Addressed</i>
<i>5. Entanglement in the tilt cords (hazard scenario 2)</i>	<i>2</i>	<i>0.8</i>	<i>Section 4.3.2 allows multiple cords in unspecified lengths</i>	<i>Not addressed</i>
<i>6. Unknown</i>	<i>44</i>	<i>17.7</i>		<i>Unknown</i>

Although the standard does address a portion of the hazards associated with pull cords,

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remaining pull cord hazards and continuous loop cords account for more than 50 percent of the hazard scenarios that are not addressed by the standard.

Continuous Loops. Continuous loops need to be kept taut so that the free-standing loop does not cause a hazard to young children. The voluntary standard requires a tension device to be attached on the loop by the manufacturer. After receiving the product, the consumer must install the tension device on an external surface, such as a wall or window sill, per manufacturer's instructions. As explained in the ESHF memorandum, Tab D of the Petition Briefing Package, compliance with instructions declines if the effort and time required for the installation is high. The first publication of the voluntary standard (1996) required that a cord tension device be supplied and removal of it is a sequential process (*i.e.*, requires two or more independent steps to be performed in a specific order). Once the tension device is installed, it becomes a passive device.

In 2007, the voluntary standard introduced the "partial inoperability clause," which meant that if the tension device was not properly installed, the tension device should at least partially prevent the operation of the window covering. The latest version of the standard includes the same partial inoperability requirement, in addition to a new durability test procedure to prevent the tension device, if installed, from coming off the wall or breaking under the tested conditions.

Pull Cords. For the Petition Briefing Package, ESME staff concluded that the voluntary standard does not address the following hazard scenarios: (1) loops resulting from knotted or entangled pull cords, (2) pull cords that are wrapped around the neck, (3) pull cords that are tied to another object, and (4) pull cords with loops above stop ball/cord connector. The recently published Canadian standard (*CAN/CSA-Z600-14 Safety of Corded Window Covering Products*)

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adopts the requirements of the ANSI/WCMA standard with one change: adding cord cleats as a required component to mitigate the pull cord hazard. CPSC understands that for the spirit of harmonization, WCMA will propose to include a similar requirement to the ANSI/WCMA standard.

CPSC staff has raised concerns regarding the pull cord and continuous loop hazards to WCMA, repeatedly emphasizing that either eliminating access to the pull cords or making accessible cords nonhazardous in both raised or lowered heights of the window covering would greatly reduce the incidents. Most recently, on July 22, 2014, CPSC staff sent a letter to WCMA suggesting revisions to the voluntary standard that would address the strangulation hazard created by pull cords and continuous loops on window coverings.¹² WCMA responded to staff's letter on August 29, 2014.¹³ ANPR Briefing Memorandum at 4.

WCMA believes that cord cleats, a device around which a cord can be wound and can be attached to a wall or other structure, or that is integral with the product, can help reduce incidents associated with pull cords. WCMA intends to utilize an expedited approval process to add cord cleats as a requirement to the ANSI/WCMA standard with the objective of harmonizing the standard with the latest version of the Canadian standard (CAN/CSA Z600 window covering standard).

Staff has several concerns with cord cleats. Cord cleats require that the user remove and then secure the cord to the cleat each time the window covering is raised or lowered in order to mitigate the hazard, which consumers may feel to be a nuisance and not do, thus voiding the protections ostensibly provided. In addition, failure to install a cord cleat will not cause the window covering to cease operating as intended, which may also serve to reduce the protection

12 http://www.cpsc.gov/PageFiles/170256/WCMA_Ltr_22_July_2014.pdf

13 http://www.cpsc.gov/PageFiles/170642/WCMALettertoGBorlase8_29.pdf

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provided. Indeed, many stock products already come with cord cleats in the box, so the degree to which they are installed and used is in question. For example, in a 2010 incident, a four-year-old child who was standing on the back of a couch, reached the pull cords which were usually wrapped around the cord cleat, but not on the day of the incident.¹⁴ When cord cleats are installed, consumers still need to be aware that children can climb up to get to the cords, as observed in a 2005 incident where a four-year-old child moved a small plastic table near to a window, climbed upon the table, reached up and removed the pull cord.¹⁵ Furthermore, even if cleats are used to wrap excess pull cords, the cords above the cleat present a strangulation hazard.¹⁶ A cord cleat retrofit program may be beneficial for those consumers who become aware of the hazard and want to take action to mitigate the pull cord hazard. However, staff believes that consumers who respond to a recall likely install and use cord cleats more consistently than consumers who are unaware of the hazard. The latter group of consumers may overlook the cord cleat as they are not aware of the hazard, and the operation of the product does not necessitate the installation and use of cord cleats.

Regarding continuous loops and tension devices, CPSC staff's IDI review of 70 incidents associated with entanglement in a continuous loop cord showed that the majority of the incident units did not have a tension device installed on the continuous loop. Staff recognizes that tension devices, when properly installed and intact, keep the looped cords taut and do not allow a child's head to enter into the loop. If tension devices are not installed, are installed improperly, or are removed from the cord, a hazardous loop is present. ANPR Briefing Memorandum at 4.

2. Warning Labels

Warning labels are intended to alert the user of the strangulation hazard, and to keep

¹⁴ IDI 110103CCC3322

¹⁵ IDI 050407CCC3309

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cords away from children and move furniture away from cords as children can climb on furniture to reach cords. Warning labels and hang tags have been part of the ANSI/WCMA standard since its first publication in 1996. In 2009, the voluntary standard required a hang tag that must be attached to the lower most section of the inner cord on the back side of a Roman shade. The voluntary standard was amended in 2012 to require that a warning label be placed on the product package (or on merchandising material for custom products) and displayed conspicuously. The requirement to include warnings on retail packaging and merchandising materials was intended to warn consumers about the strangulation hazard associated with accessible cords so that consumers can make an informed purchasing decision.

Staff believes that the requirement to place a warning on product packaging is potentially beneficial for consumers who either learn of the hazard by reviewing the warning material on packaging or are aware of the hazard and looking for a safer product to purchase. However, consumers who are not the original purchasers of the product will not benefit from information included on packaging materials as the packaging is discarded after the product is installed.

The ANSI/WCMA standard requires permanent warning labels¹⁷ and operational hangtags¹⁸ on the product that follow ANSI Z535.4, American National Standard for Product Safety Signs and Labels. Research demonstrates that warning labels should first be visible and noticeable. Warning labels should also have design characteristics that encourage the user to stop and read the warning. Effective labels state the hazard, explain the consequences of the hazard, and provide instructions on how to avoid the hazard using explicit text to improve comprehension. Staff believes that warning labels on window coverings that comply with the

¹⁶ <http://www.cpsc.gov/PageFiles/121510/5009a.pdf>

¹⁷ A permanent marking or label cannot be removed or, during an attempt to manually remove it without the aid of tools or solvents, the marking or label tears apart or damages the surface to which it is attached.

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ANSI/WCMA standard have design characteristics to make them visible and noticeable. For example, warnings that are placed directly on the product have higher noticeability compared to the warnings listed in a “distant” instruction manual (Wogalter *et al.*, 1987). Additionally, the voluntary standard requires the word “Warning” in all capital letters and printed in an orange color. The required warning messages that are on the warning labels and hang tags explain the nature of the hazard, the consequences of the hazard, and provide instructions on how to avoid the hazard, as recommended in the warning literature (Wogalter and Laughery, 2006). Finally, the required labels have a pictogram which should increase their noticeability because pictograms help capture user’s attention (Wogalter and Leonard 1999).

Even though the warning labels required by the ANSI/WCMA standard meet the usual criteria for what is considered a well-designed warning label, CPSC staff believes that the labels have limited effectiveness in changing the user’s behavior in the purchase and use of window coverings. The inherent problem with the strangulation hazard associated with window covering cords and warning labels is that people are less likely to read instructions or recognize potential hazards associated with the products that they use more frequently (Godfrey *et al.*, 1994). Research demonstrates that high familiarity with a product can lower a user’s inclination to read warnings or reduce the likelihood that the user will believe such information, lowering the rate of compliance with the warning (Riley, 2004). Window coverings are decorative products providing utility and found in every household in one form or another. Consumers interact with window coverings daily and experienced users are likely to repeat behaviors with little conscious thought, especially on a product that they have had numerous prior experiences (Riley, 2004).

Even after users notice and read the warning label, comprehend the message and make

18 Operational hangtags contain information based on the characteristics of the product or the safety devices included on the product.

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the decision to follow the instructions, they must comply with the warning as instructed to mitigate the hazard. User's actual ability to comply with a warning is affected by cost of compliance, which includes effort, time, and perceived compromise in product performance as well as expense. In the case of window coverings, safety recommendations other than purchasing inherently safe products (*e.g.*, cordless products or products with inaccessible cords), such as keeping cords out of reach of children, moving the furniture away from cords, installing a tension device to the wall or floor, and installing cord cleats, entail significant limitations or high cost of compliance. For example, depending on the room design limitations, consumers may not have the ability to keep cords away from furniture. Additionally, requiring consumers to wrap the pull cords around the cord cleat each and every time the window covering is raised or lowered leads to potential errors, such as forgetting the intended action during the routine use of the product. ANPR Briefing Memorandum at 5-6.

D. Available Technology to Address the Hazard

Although not currently mandatory, a variety of technologies currently used by window covering manufacturers on window covering products eliminate the risk of strangulation to young children. CPSC's engineering staff reviewed window covering products currently on the market that incorporate technologies to address the hazard associated with corded products. Petition Briefing Package, Tab E at 130-136. Available products that address the hazard include, but are not limited to: manual and motorized cordless window coverings, cord shrouds, and cord retractors.

Cords can be made inaccessible with passive guarding devices. Passive guarding devices allow the user to operate the window covering without direct interaction of a hazardous cord. These types of devices would include cord shrouds, integrated cord/chain tensioners, or cord

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retractors.

Cordless blinds and shades are raised and lowered by pushing the bottom rail up or pulling the rail down. This same motion may also be used to adjust the position of the horizontal slats for light control. Through market research, staff found several examples of cordless blinds that can be made with a maximum height 84” and a maximum width of 144”.

Rigid cord shrouds (Figure 9) can be retrofitted over various types of window coverings to enclose pull cords and continuous cord loops. An encased clutch system allows the user to utilize the pull cords in the cord shroud while eliminating access to the hazardous cords.

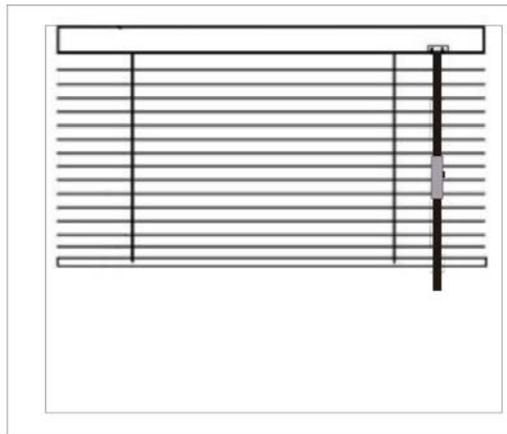


Figure 9: Rigid Cord Shroud System

Loop cord/bead chain restraining devices (Figure 10) keep the looped bead chain taut, preventing access to a hazardous loop, and do not require external components to be installed.

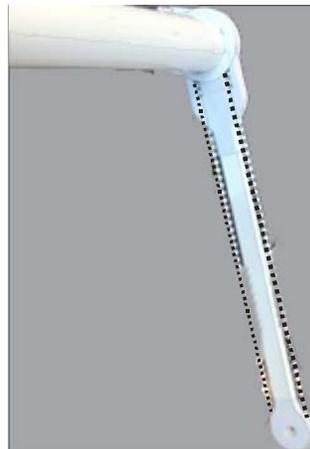


Figure 10: Integrated Cord/Chain Tensioning Device

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Crank mechanisms (Figure 11) replace the continuous loop mechanism with a crank/wand mechanism. Because the operating cord is replaced with a wand, the strangulation hazards are completely removed.

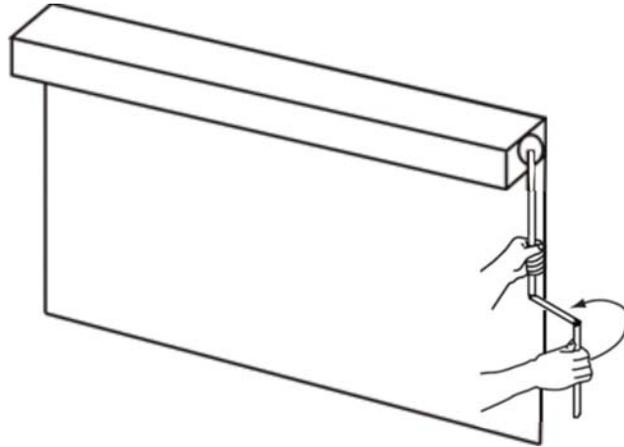


Figure 11: Crank Mechanism

Cord retractors (Figure 12) passively retract the operating cord within 6 inches of the head rail. These devices are intended to keep the operating cords out of the child's reach. Through market research, staff found several examples of cord retractors that can be used on window coverings with a maximum height of 120" and a maximum width of 174".

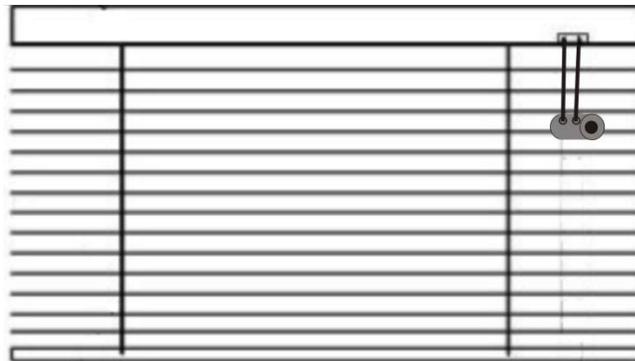


Figure 12: Cord Retractor Mechanism

Cordless motorized blinds are raised and lowered using an electric motor with a supplied controller. These products function in a manner similar to the motorized projector screens. Because these products use a motor instead of a pull cord, there are no exposed hazardous cords.

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Table 4 groups the hazard patterns with the appropriate available technologies.

Table 4: Hazard Patterns with Available Technologies

Hazard	Products	ANSI/WCMA requirements	Does the ANSI/WCMA Standard effectively address the hazard per engineering staff's assessment	Available Technology (commercially available or in prototype stage) to address hazard
Hazard 1. <i>Loops created by knotted or tangled cord.</i>	Horizontal blinds Cellular shades Roll up blinds Roman shades Pleated shades	4.3.2 The product shall have one or more separate operating cords.	No – free hanging, exposed operating cords are permissible.	Cordless window coverings, rigid cord shrouds, crank mechanisms, cord retractors, cordless motorized window coverings
Hazard 2. <i>One or more long cords which the child wrapped around the neck involving pull cords and tilt cords.</i>	Horizontal blinds Cellular shades Roll up blinds Roman shades Pleated shades	4.3.2 The product shall have one or more separate operating cords. 4.3.9 The product shall, if it requires a cord connector, limit the exposed loop above the cord connector to less than 3 inches below the bottom of the cord lock when bottom rail is in the fully lowered position.	No- accessible, free hanging cords can be wrapped around the neck of a child as incident data demonstrates.	Cordless window coverings, rigid cord shrouds, crank mechanisms, cord retractors, and, cordless motorized window coverings
Hazard 3. <i>Loop above a single tassel of the cord</i>	Horizontal blinds Cellular shades Roll Up blinds Roman shades Pleated shades	4.3.2 The product shall have one or more separate operating cords. 4.3.3 The Product shall contain a cord release device in the loop or the head rail	Yes- by requiring either separate tassels on each cord or breakaway tassel, however this separate tassel configuration presents a wraparound (hazard #1) or knotted loop (hazard#2) strangulation hazards as described above .	
Hazard 4. <i>Loop above the stop ball of the cord.</i>	Horizontal blinds Cellular shades Roll up blinds Roman shades Pleated shades	4.3.9 <i>The cord connector shall limit the exposed loop above the cord connector to less than 3 inches below the bottom of the</i>	No- a product that meets the standard could still contain an accessible hazardous loop when the bottom rail is raised.	Cordless window coverings, rigid cord shrouds, crank mechanisms, cord retractors, and, cordless motorized window coverings

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		<i>cord lock when the bottom rail is fully lowered.</i>		
Hazard 5. Loop created when pull-cord was tied to another object, usually on the wall	Horizontal blinds Cellular shades Roll up blinds Roman shades Pleated shades	4.3.2 The product shall have one or more separate operating cords.	No- consumers may attempt to keep the long cords away from children by tying the cords on a curtain rod or other means	Cordless window coverings, rigid cord shrouds, crank mechanisms, cord retractors, and, cordless motorized window coverings
Hazard Unknown manner (involving a pull cord).	Horizontal blinds Cellular Shades Roll Up blinds Roman Shades Pleated shades	N/A	Unknown	Unknown
Hazard 6. Entanglement in a continuous loop cord.	Vertical blinds, Roller shades, Curtains and draperies	<i>4.3.7 The product shall contain a cord tension device that will at least partially prevent the window covering from functioning for light control or privacy when not installed.</i>	No- hazardous loops are not effectively addressed by the standard when the blind continues to be operational, despite the fact that the tension device is not properly installed.	Loop cord/bead restraining device, crank mechanisms, motorized option
Hazard 7a. Entanglement from exposed inner cords with no cord stops	Horizontal blinds	4.4.1 the product shall have no inner cords 4.4.2 no accessible inner cords 4.4.3 accessible inner cords shall pass the hazardous loop test 4.4.3.1 inner cord stop devices or cord connectors shall be positioned 3 inches or less below the head rail 4.4.4 shrouded inner cords	Yes-window coverings associated with the inner cord hazard scenario appeared to be older products that were manufactured before the 2002 standard was published. Engineering staff believes that had the cord stops involved in the incident scenarios met the voluntary standard, they would not likely have occurred	
Hazard 7b. Entanglement from exposed inner cords when the cord stops are positioned too low	Horizontal blinds	4.4.1 the product shall have no inner cords 4.4.2 no accessible inner cords 4.4.3 accessible inner cords shall pass the hazardous loop test 4.4.3.1 inner cord stop devices or cord connectors shall be positioned 3 inches	Yes- window coverings associated with the inner cord hazard scenario appeared to be older products that were manufactured before the 2002 standard was published. Engineering staff believes that had the cord stops involved in the incident	

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		or less below the head rail 4.4.4 shrouded inner cords	scenarios met the voluntary standard, they would not likely have occurred	
<i>Hazard 8. Entanglement in the Roman shade inner cord.</i>	Roman shades	4.4.1 the product shall have no inner cords 4.4.2 no accessible inner cords 4.4.3 accessible inner cords shall pass the hazardous loop test 4.4.3.1 inner cord stop devices or cord connectors shall be positioned 3 inches or less below the head rail 4.4.4 shrouded inner cords	Yes- the requirements prevent hazardous inner cords that may allow child's head to be inserted to the loop	
<i>Hazard 9. Entanglement in the lifting loop</i>	Roll up blind	4.4.5 accessible inner cords shall feature an inner cord release device	Yes- the lifting loop shall be pulled 48 times in various directions. The lifting loop shall breakaway with an average force not to exceed 3 pounds. This test mimics the force that may be exerted due to the child's head being in the loop.	

E. Compliance Actions

Compliance staff began working with WCMA in 1994, when CPSC announced a joint recall with the WCMA on how to eliminate the loops on pull cords ending in one tassel. Petition Briefing Package, Tab F. The WCMA created the larger Window Covering Safety Council (WCSC) to include window covering manufacturers and retailers to support the recall and to provide free repair kits to consumers. In 1999, after an extensive review of the incidents reported to CPSC, Compliance staff began a new investigation of window covering deaths resulting from inner cords of horizontal blinds. In 2000, CPSC and WCMA again announced a

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joint recall involving inner cord stops to reduce the risk of a child pulling on the inner cords and creating a hazardous loop. *Id.* at 142-143.

In 2005, Compliance staff learned of a nonfatal incident involving the inner cord of a Roman shade. Subsequently, CPSC investigated a worldwide retailer following a child's death from the inner cord of a Roman shade. In 2008, CPSC and the retailer announced a joint recall for Roman shades, offering a full refund to consumers. In 2009, CPSC and 15 manufacturers and retailers in conjunction with the WCSC, announced individual recalls of Roman shades and roll-up blinds. In 2012, two more recalls occurred: one involving horizontal blinds manufactured without inner cord stops and vertical blinds manufactured without tension devices, and the second recall to repair and correct an assembly error in a breakaway cord connector. *Id.* at 143-145.

F. Public Education

Since the window covering-related first safety alert was issued in 1985, CPSC has been warning parents of the danger of child strangulation due to corded window coverings. Petition Briefing Package, Briefing Memorandum at 19. CPSC identified window coverings as one of the top five hidden home hazards.¹⁹ Every October, CPSC participates jointly with WCSC in National Window Covering Safety Month to urge parents and caregivers to check their window coverings for exposed and dangling cords and to take precautions. Both CPSC and WCSC recommend cordless window coverings or window coverings with inaccessible cords in homes where young children live or visit. In addition to traditional communication methods, CPSC reaches out to consumers using social media, such as safety blogs and online chats, the Neighborhood Safety Network, and through partnerships (such as with the Department of Defense) to create awareness of the hazards associated with corded window coverings. CPSC

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does not have information to assess the effectiveness of public education campaigns.

V. Existing Standards for Window Covering Products

A. ANSI/WCMA Standard

Although no mandatory window covering standard exists in the United States, the 2014 version of the ANSI/WCMA voluntary standard establishes safety performance requirements. The standard applies to all interior corded window covering products sold in the United States and includes, but is not limited to, cellular shades, horizontal blinds, pleated shades, roll-up style blinds, roller shades, Roman style shades, traverse rods, and vertical blinds. The standard was first published in 1996, and subsequently was revised six times. The latest version was published in 2014. Section IV.A-C of this ANPR review provisions in the ANSI/WCMA standard intended to address the hazard creating by corded window coverings.

B. International Standards

Three international standards specify requirements for the safety of window coverings:

- (1) *Competition and Consumer (Corded Internal Window Coverings) Safety Standard 2014* published in Australia (Australian standard),
- (2) *Corded Window Covering Products Regulations (SOR/2009-11)* and *CAN/CSA-Z600-14 Safety of Corded Window Covering Products* published in Canada, which is based on the 2012 ANSI/WCMA standard with some modifications (Canadian standard), and
- (3) *EN 13120:2009+A1:2014 Internal blinds- Performance requirements including safety*, *EN 16433:2014 Internal blinds — Protection from strangulation hazards — Test methods*, and *EN 16434:2014 Internal blinds — Protection from strangulation hazards. Requirements and test methods for safety devices* published by European Committee for Standardization (European standard).

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CPSC engineering staff compared the ANSI/WCMA standard with the international standards and concluded that the ANSI standard developed by WCMA is one of the strongest standards in the world. Petition Briefing Package, Tab E at 124-130.

1. Australian Standard

Australia has a mandatory product safety standard requiring the provision of information, warnings, instructions, and safety devices with corded internal window coverings (CIWC). A new regulation has been enacted requiring those installing CIWC in trade or commerce to follow the safety instructions when installing the product and avoid the production of dangerous lengths or loops of cord.

A corded internal window covering must be installed to meet the following four requirements:

- a. A loose cord cannot form a 220 mm loop or longer at less than 1600 mm (62.99 in.).
- b. The product must be installed using the installation instruction on the retail packaging and any other provided information about how to ensure a loose cord cannot form a loop described in requirement 1.
- c. No part of the cord guide (a device designed to retract, tension, or secure a cord) may be installed lower than 1600 mm above floor level unless
 - i. The cord guide will stay attached to the wall when subjected to 70 N applied in any direction for 10 seconds.
 - ii. The cord is sufficiently secured or tensioned to prevent the formation of a loop 220 mm or longer.

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d. If a cleat is used to secure a cord, it must be installed at least 1600 mm above the floor level.

CPSC does not believe the use of a cord cleat is effective to address the strangulation risk.²⁰ First, a cord cleat needs to be actively installed and used every time. Second, the cord cleat needs to be installed at a height not accessible to a child. If the child had access to the cord cleat, the resulting hazard would be similar to hazard 5: Loop created when pull-cord was tied to another object, usually on the wall. Finally the cord cleat needs to take up all the excess slack in the cord; excess cord slack could pose a hazard similar to the hazard created by loops created by knotted or tangled cord or one or more long cords which the child wrapped around the neck (see Table 3).

2. Canadian Standard

Canada's most recent standard, *CAN/CSA-Z600-14*, is the 2012 ANSI/WCMA standard with the inclusion of cord cleats. Cord cleats are required for window coverings with accessible cords and shall allow complete cording length to be accumulated on the cleat. Instructions on how to properly use the cord cleats are also required. Consumers will be advised that the cord cleats that are external to the product should be installed at a height of 1.6 m above the floor, while cord cleats integral to the product shall be within 18 inches of the head rail. CPSC maintains the same opinion about cord cleats as explained above in section V.B.2 regarding the Australian standard.

3. European Standard

Many differences exist between the WCMA and European standards, with each standard having areas of strength and weakness. Table 5 compares the operating cord requirements of the ANSI/WCMA standard and the European standard.

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Table 5. Comparison of ANSI/WCMA standard with the European standard

Test	ANSI/WCMA A100.1-2014	EN Standard	Summary
Cord Release Device/Cord Shear Device vs. Breakaway System	<p>Cord Release Device & Cord Shear Device:</p> <ul style="list-style-type: none"> *Create a 3.5 foot loop from the cord and hook a force gage onto it *Twist the force gage 360 degrees and draw the force gauge at a speed between .1 and 1 inch per second. The cord shall release within 10 seconds. *Repeat for 50 products *The average release force shall not exceed 3 pounds for the 50 products and all products shall have a release force below 5 pounds. 	<p>Breakaway system</p> <ul style="list-style-type: none"> *If installation height is not given, the length of pull cord(s) shall be less than or equal to 2/3 of the height of the curtain. *If the installation height is given, the pull cords shall be at least .6 m above the floor. *The hazardous loop shall be eliminated when a mass of 13.22 pounds is gradually applied to the pull cords within 5 seconds of application. 	<p>The ANSI/WCMA standard appears to be more conservative because it requires the cord to break away at an average of 3 pounds, compared to EN's 13.22 pounds.</p>
Cord tension vs. Fixed Tensioning system	<ul style="list-style-type: none"> *The tension device shall at least partially prevent the window covering from functioning for light control or privacy when not installed. *The tension device shall have a minimum tested release force of 20 pounds off the wall. *Using a force gage gently pull the loop cord horizontally over a period of 5 seconds to create an opening. Stop pulling the gauge when it reads 5 pounds or the pulled pull distance = 25 inches, whichever comes first. *Determine whether the head probe can be inserted into the created with an insertion force of 10 pounds. If the probe can be inserted, then the loop is hazardous. 	<ul style="list-style-type: none"> * If the blind's height is ≤ 2.5 m, then pull cords shall be ≤ 1 m. * If the blind's height is > 2.5 m, then the pull cords shall be \leq the height of the curtain minus 1.5 m. * The distance between the two strands of the loop shall be no more than 50 mm adjacent to the tensioning device. *allows for a breakaway system for the continuous corded system 	<p>The ANSI/WCMA standard is stronger because:</p> <ul style="list-style-type: none"> * It requires the product to be installed by partially limiting the product's functionality while the EN does not. *Even though the EN allows for a break away, the tested release force is 13.2 pounds, which is more than the ANSI/WCMA version. -The ANSI/WCMA standard only allows products into which a head probe can't be inserted, while the EN does not.
Pull Cords	<p>Section 4.3 of the standard specifies that window coverings with an exposed operating cord or continuous loop operating system shall meet one of the following requirements:</p> <ul style="list-style-type: none"> 4.3.1: Product shall have no accessible operating cords 4.3.2: Product shall have one or more separate operating cords 4.3.3: Product shall contain a cord release device in the loop or head rail 4.3.4: Product shall contain a permanently attached 	<p>When the bottom rail is fully lowered:</p> <ul style="list-style-type: none"> *if the blind height is ≤ 2.5 m, the pull cords shall be ≤ 1 m. *if the blind height is > 2.5 m, the pull cord length shall be no longer than the curtain height minus 1.5 m. <p>If the product has two pull cords:</p> <ul style="list-style-type: none"> *Pull cords shall not tangle. *If cords tangle, the loop shall be eliminated within 5 seconds of a 6 kg mass application. *Pull cords shall be connected using a breakaway system. The 	<p>WCMA is standard is stronger as it requires the cord release device to release the cord at an average force of 3 pounds while the WCMA allow for forces up to 13.3 pounds.</p> <p>The EN standard is stronger in terms of the following:</p> <ul style="list-style-type: none"> *It ensures that tangled cords become eliminated within 5 seconds of a 13.22-

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	<p>cord retraction device</p> <p>4.3.5: Product shall contain a cord shear device</p> <p>4.3.6: Product shall contain a cord shroud device</p> <p>4.3.7: Product shall contain a cord tension device</p> <p>4.3.8: Product shall contain a loop cord or bead chain-restraining device</p> <p>4.3.9: If the product requires a cord connector, i.e. stop ball, the exposed loop above the cord connector shall be limited to less than 3 in below the bottom of the cord lock when the bottom rail is fully lowered.</p>	<p>hazardous loop shall be eliminated within 5 seconds of a 6kg mass application.</p> <p>If the product has more than two pull cords: *Pull cords shall be connected together using a breakaway system. *The hazardous loop shall be eliminated within 5 seconds of a 6kg mass application</p> <p>If the product has more than four pull cords in the absence of a suitable breakaway connector: *cords may be connected to a single pull cord positioned < 50 mm from the head rail when the bottom rail is fully lowered.</p>	<p>pound application, WCMA has no such requirement. *It restricts the length on continuous loop and breakaway pull cords to reduce access to the cord. If the product does not meet the length requirements, then the product must be fitted with an accumulation system to contain all of the excess cord, not allowing more than 100 mm of cord when 60N is applied to it. The WCMA standard does not restrict the pull cord length and the cord retractor is an optional requirement. *In addition to the length requirement, it requires the pull cords to either be connected with a breakaway device, for less than four pull cords, or connected less than 50 mm below the head rail for more than four pull cords. WCMA standard does not have this requirement. *Does not allow for multiple separate cords without any other protection devices. WCMA standard allows for multiple cords.</p>
<p>Inner Cords</p>	<p>Section 4.4 of the standard specifies that window coverings containing inner cords shall meet one of the following requirements:</p> <p>4.4.1: Product shall have no inner cords</p> <p>4.4.2: Product shall have no accessible inner cords using a test probe with a diameter of 51 mm for open construction and 102 mm for closed construction. Any cord that the probe can touch is considered accessible. If the inner cords are accessible, then pull on the cord with a force gage until it reads 22.24 N or 635 mm of slack is pulled, whichever comes first. The</p>	<p>*The maximum distance between two consecutive attachment/ retention points of inner cords shall be ≤ 200 mm. *It shall not be possible to insert the head probe (W 148mm by L 110 mm by H 150 mm) between the inner cords after 50 N is applied and released from the inner cords. The dimension of the loop shall not be increased when inserting the probe.</p> <p>If either of the above requirements are not met, the hazardous loop shall be eliminated when 58.83 N is applied within 5 seconds of application</p>	<p>The WCMA standard is stronger because: *The head probe is inserted while the inner cord loop is held open with the force gage. However, the EN standard releases the inner cord after it was pulled and then the head probe is inserted. The weight of the bottom rail could potentially remove the inner cord loop. *The WCMA standard also gives the option for inner cord stops, which the EN standard fails to mention.</p>

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	<p>head probe, dimensions of W 148 mm by H 110 mm by H 150 mm, shall not be able to be inserted in the loop with a force of 44.5 N.</p> <p>4.4.3: Products that have accessible inner cords shall incorporate an inner cord stop device or cord connector 76.2 mm or less below head rail when bottom rail is fully lowered.</p> <p>4.4.4: Product shall have an inner cord shroud.</p> <p>4.4.5: If the product is a roll up style, blind, accessible inner cords shall have a cord release device.</p>		<p>The EN standard is stronger because it pulls on the inner cord with 50 N vs WCMA's 22.24 N.</p>
Cord Accumulation System	N/A	<p>Accumulation systems (e.g., cord cleats) are required to be installed per the manufactures instructions which should be at least 1.5 m above the ground. In addition, no more than 100 mm of cord shall be released after a force of 13.48 pounds is applied to any of the cords.</p>	<p>Neither the ANSI/WCMA, nor the EN standard is stronger standard. Having an accumulation system can possibly keep the cord out of a child's reach and at the same time pose a hazard similar to, Hazard 5. Loop created when pull-cord was tied to another object, usually on the wall.</p>

C. International Alignment Agreement

In February 2012, participating staff of the Australia Competition and Consumer Commission, Health Canada, European Commission Directorate General for Health & Consumers, and the CPSC reached consensus on a document that describes approaches to addressing the strangulation hazard related to corded window coverings. Petition Briefing Package, Briefing Memorandum at 13-14. The document includes a hierarchy of the various solutions, recognizing that different approaches may be necessary for making different types of products safer:

To achieve the greatest permanent reductions in strangulations from corded window covering products, the product designs should eliminate exposure to the hazard or eliminate the hazard entirely. At the top of the hierarchy of safe solutions for window coverings are the following:

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- The product has no accessible cords under any conditions of foreseeable use or misuse.
- The product has accessible cords that cannot form a hazardous loop under any conditions of foreseeable use or misuse, including failure to heed warnings or incorrect installation.

The following approach provides for the next level in the hierarchy of solutions to reduce strangulation hazard:

- The product is provided with safety devices to be installed ensuring that accessible cords cannot form a hazardous loop. Instructions and warnings are provided for correct installation.

Due to variable factors, such as a consumer's diligence and ability to follow all installation instructions and heed all warnings, there is a difference between this approach and the approach providing the highest level of safety. Finally, relying solely on warnings that the product contains hazardous loops that could strangle a child is considered insufficient to prevent fatalities.

Warnings and instructions for safe use however should continue to be present on all corded window coverings, their packaging, and their instructions. Public education efforts should encourage the use of safe window coverings and removal of products with accessible cords that can form hazardous loops.

VI. Relevant Statutory Provisions

The Commission is conducting this proceeding under the Consumer Product Safety Act ("CPSA"). 15 U.S.C. 2051 *et seq.* Window covering products are consumer products. *Id.* 2052(a)(5). Under section 7 of the CPSA, the Commission can issue a consumer product safety standard if the requirements of such a standard are "reasonably necessary to prevent or reduce an unreasonable risk of injury associated with [a consumer product]." *Id.* 2056(a). Such a standard must be expressed in terms of performance requirements or requirements for warnings or instructions. *Id.* Under section 8 of the CPSA, the Commission can issue a rule declaring a product to be a banned hazardous product when the Commission finds that a consumer product is being, or will be, distributed in commerce and there is no feasible consumer product safety

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standard that would adequately protect the public from the unreasonable risk associated with the product. *Id.* 2057.

Section 9 of the CPSA sets out the procedure that the Commission must follow to issue a standard or a banning rule. The rulemaking may begin with an ANPR that identifies the product and the nature of the risk of injury associated with the product, summarizes the regulatory alternatives considered by the Commission, and provides information about any relevant existing standards and a summary of the reasons the Commission believes they would not eliminate or adequately reduce the risk of injury. The ANPR also must invite comments concerning the risk of injury and regulatory alternatives and invite the public to submit an existing standard or a statement of intent to modify or develop a voluntary standard to address the risk of injury. *Id.* 2058(a).

The next step in the rulemaking would be for us to review comments submitted in response to the ANPR and decide whether to issue a proposed rule along with a preliminary regulatory analysis. The preliminary regulatory analysis would describe potential benefits and costs of the proposal, discuss reasonable alternatives, and summarize the potential benefits and costs of the alternatives. *Id.* 2058(c). We would then review comments on the proposed rule and decide whether to issue a final rule along with a final regulatory analysis. *Id.* 2058(d)-(g).

VII. Preliminary Estimate of Societal Costs

Tab G of the Petition Briefing Package estimates societal costs associated with deaths and injuries from corded window covering products. Based on deaths reported from 1999 through 2010, and medically attended injuries from 1996 through 2012, the societal costs associated with deaths and injuries involving window covering cords may have amounted to an average of about \$110.7 million annually. EC staff estimated that an average of about 20 percent

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of the window coverings²¹ were cordless (or did not have accessible cords) during the 1996 through 2012 time period, which suggests that these injuries and deaths were associated with the roughly 832 million window coverings in use that had accessible cords.

Based on the estimates provided in the Petition Briefing Package, the societal costs may have amounted to an average of about \$0.13 per corded window covering per year (*i.e.*, \$110.7 million ÷ 832 million window coverings) from 1996 through 2012. Additionally, because window coverings remain in use for an average of about 7 years, the expected present value of the annual societal costs (discounted at a rate of 3.0 percent) would average about \$0.85 per corded covering over its expected product life.

VIII. Regulatory Alternatives

The Commission is considering the following alternatives to address the risk of injury associated with corded window covering products:

A. Mandatory Standard

The Commission could issue a rule specifying performance requirements for corded window coverings to reduce the risk of injury identified with these products. For example, to address the pull cord and continuous loop hazards, one option may be to develop a mandatory rule that is similar to the current ANSI/WCMA standard, which provides manufacturers a list of options to make safe window coverings. Such a rule could require that pull cords and continuous loops be tested for accessibility similar to the inner cords that are currently required by the standard. If accessible cords are found, a hazardous loop test procedure similar to the current procedure, but with some modifications, could be applied to determine if cords can create a hazardous loop.

²¹ Based on EC staff's estimate that about 25 percent of current market sales consist of cordless products, the increasing availability and sales of cordless products in recent years, and the assumption that only about one-third of

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Another option for a mandatory rule would be to issue a rule consistent with the petitioners' request, which would prohibit window covering cords if a feasible cordless alternative exists; and for instances in which a feasible cordless alternative does not exist, require that all cords be made inaccessible by using a passive guarding device.

A third option for a mandatory rule may be to model such a rule after one of the enumerated international standards in section VII, or relevant portions of such standards.

For any mandatory rule, the Commission could issue a rule that focuses on performance requirements or issue a rule that includes both performance requirements and labeling requirements to address the risk of strangulation. The Commission is interested in comments on the approaches described above, as well as any other suggestions to develop a mandatory standard to address the risk of injury associated with window covering cords. To issue a mandatory standard, the Commission would need to assess the costs and benefits of the requirements. Accordingly, the CPSC is interested in an assessment of the costs and benefits associated with options for a mandatory rule.

B. Labeling Rule

The Commission could issue a mandatory rule that relies on warning labels. CPSC staff is concerned that warning labels have limited effectiveness for a product that is familiar, used frequently, and contains a hidden hazard, as explained in Section IV.C.2 of this notice.

C. Banning Rule

The Commission could issue a rule declaring window covering products with cords to be banned hazardous products, if we found that no feasible consumer product safety standard would adequately protect the public from the unreasonable risk of injury associated with these products.

D. Voluntary Standard

curtains and draperies have cords.

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If the Commission determined that a voluntary standard was adequate to address the risk of injury associated with corded window covering products, and that substantial compliance with the standard exists in the industry, we could defer to the voluntary standard, in lieu of issuing a mandatory rule.

As explained in the Petition Briefing Package, according to CPSC engineering staff's assessment, the current version of the ANSI/WCMA voluntary standard would fail to eliminate or reduce the strangulation hazard to children because at least 57 percent of the incidents that occurred could still occur with pull cords and continuous loops on window coverings that meet the current version of the ANSI/WCMA standard.

E. No Regulatory Action

The Commission could take no regulatory action but continue to rely on corrective actions under section 15 of the CPSA and/or public education campaigns to address the risk of injury associated with corded window covering products. The Commission could continue to rely on recalls to address hazards associated with window coverings. For example, CPSC and WCMA announced joint recalls to eliminate the loops on pull cords ending in one tassel by offering free tassels; to reduce the incidents associated with horizontal blind inner cords by offering free inner cord stops, and repair kits to remove inner cords from Roman shades. The ANSI/WCMA standard was revised accordingly after these recalls to add performance requirements associated with these hazards.

To date, no recalls have addressed the issue of pull cords ending in separate tassels or continuous loops that did not require an external tension device to be installed. Accordingly, just like a mandatory rule, relying on recalls to address hazards associated with continuous loops and pull cords would also require a solution from manufacturers to implement for the products that

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have been sold and for future production. We are also concerned that relying on recalls requires staff to establish independently that each window covering in question presents a substantial product hazard. In addition, a recall of an individual manufacturer's window covering has no binding effect on other manufacturers who may have similar products that present the same hazard.

The Commission could also continue to pursue public information and education campaigns. In addition to compliance activities, CPSC has been warning parents of the danger of child strangulation due to corded window coverings since the first safety alert that was issued in 1985. CPSC has identified window coverings as one of the top five hidden home hazards.²² Every October, CPSC participates in National Window Covering Safety Month to urge parents and caregivers to check their window coverings for exposed and dangling cords and to take precautions. Both CPSC and the Window Covering Safety Council (WCSC) recommend cordless window coverings at homes where young children live or visit. CPSC reaches out to consumers to create awareness of the hazards associated with corded window coverings. Staff does not have information to assess the effectiveness of public education campaigns to date; however, the lack of an observable trend in the data over this time period indicates that such campaigns are not effectively reducing the risk.

IX. Solicitation of Information and Comments

This ANPR is the first step of a proceeding that could result in a mandatory rule for corded window covering products. We invite interested persons to submit comments on any aspect of the alternatives discussed above.

A. CPSA Requirements

In accordance with section 9(a) of the CPSA, we also invite comments on:

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1. The risk of injury identified by the Commission, the regulatory alternatives being considered, and other possible alternatives for addressing the risk.
2. Any existing standard or portion of a standard that could be issued as a proposed regulation.
3. A statement of intention to modify or develop a voluntary standard to address the risk of injury discussed in this notice, along with a description of a plan (including a schedule) to do so.

B. Information Specific to Corded Window Coverings

In addition, we invite comments and information concerning the following:

1. What corded window covering products should we include or exclude from the rulemaking and why? For example, we can include all corded window covering products, or we could just include products most likely to be found in homes and residences, and exclude larger products intended for commercial use.
2. What possible warnings or instructions for corded window coverings could address the risk of injury? The current ANSI/WCMA standard requires warning labels, yet injuries and deaths continue. Are there additional warnings that could address the risk of injury?
3. What possible performance requirements for window covering cords could address the risk of injury?
4. Are there sections in a foreign or international standard that can be adopted as part of a mandatory rule?

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5. What are the current costs to manufacturers to comply with the labeling requirements in the current ANSI/WCMA voluntary standard? What are the potential costs to manufacturers of labeling or performance requirements?
6. What are the potential benefits of a rule that would require warnings or instructions for corded window coverings?
7. What are the potential benefits of a rule that would establish performance requirements for corded window coverings?
8. What are the potential costs, economic and societal, of banning cords on window covering products? What alternative products would remain available?
9. What is the potential impact on small entities of a rule based on the options presented above?
10. Do consumers actually install and consistently use cord cleats and cord tensioning devices correctly? Are there other actions consumers take to reduce access to loops or cords?
11. How can public education campaigns on window covering safety be improved? How can the effectiveness of such campaigns be measured?

Market Information

12. What percent or share of the market or how many products are in use for curtains and drapes are corded, cordless, or have inaccessible cords?
13. How many window coverings are in use in U.S. households, by window covering type, if possible?
14. What proportion of the window coverings in use are cordless, by window covering type, if possible?

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Cordless products and products with inaccessible cords

15. What percent of the market (as measured by sales volume) constitutes cordless products?
16. What percent of the market (as measured by sales volume) constitute products with inaccessible cords?
17. What are annual dollar sales and unit sales volumes of cordless products, in total, and by product type, *e.g.* vertical blinds, horizontal blinds, curtains, and the various types of shades, such as cellular, pleated, roller, roll-up and Roman shades?
18. What are annual dollar sales and unit sales volumes of products with inaccessible cords, in total and by product type, *e.g.* vertical blinds, horizontal blinds, curtains, and the various types of shades, such as cellular, pleated, roller, roll-up and Roman shades?
19. What efforts have been made to market these solutions to consumers both at retail, online, and through direct outreach?
20. What proportion of curtains or drapery coverings are used with looped or other types of cords for opening and closing?
21. Information on size limitation(s) for cordless products. For example, would certain types of blinds or shades be too large or too heavy to be made into a cordless product?
22. Information on size limitation(s) for products with inaccessible cords. For example, would certain types of blinds or shades be too large or too heavy to be made into products with inaccessible cords?

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23. Are there any other factors that would limit the production or use of cordless products and products with inaccessible cords?
24. What is the size of the market for custom made cordless products, in annual dollar sales value or unit sales volume?
25. What is the size of the market for custom-made products with inaccessible cords, in annual dollar sales value or unit sales volume?
26. What is the expected product life of the various types of blinds and shades that are currently being sold in the marketplace?
27. How does the product life of cordless products compare to (or differ from) the product life of corded products?
28. How does the product life of products with inaccessible cords compare to (or differ from) the product life of corded products?
29. Are cordless options available that would be inappropriate for populations with limited mobility or the elderly?
30. Are products with inaccessible cords available that would be inappropriate for populations with limited mobility or the elderly?
31. What technologies are available as alternatives to a corded operating system?
32. What are the methods by which corded products can be converted into cordless products in the production process? What would the change in unit cost be for such conversions?

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33. What are the methods by which corded products can be converted into products with inaccessible cords in the production process? What would the change in unit cost be for such conversions?

34. What are the potential benefits and limitations of tensioning devices that would render the window coverings completely inoperable if not installed properly?

Information on Compliance with the Voluntary Standard

35. What percentage of the market (in terms of sales) or producers comply with the voluntary standard?

36. Does the current level of conformance to the voluntary standard differ for the various types of window coverings? If so, to what levels?

Information on Manufacturer Cost

37. What is the typical difference in cost to produce cordless products, products with inaccessible cords, and corded window coverings? If possible, please provide the information by window covering type (*e.g.* vertical blinds, horizontal blinds, and the various types of shades, such as cellular, pleated, roller, roll-up and Roman)?

38. What is the manufacturer's cost to produce various safety technologies, including research and development costs, and components, such as a retractable cord operating system, cord cleat, or cord shroud?

39. How would manufacturing these products in large quantities change the cost? Please provide examples in terms of quantity and price change (%).

Dated: _____

Alberta E. Mills, Acting Secretary
Consumer Product Safety Commission



United States
Consumer Product Safety Commission

BRIEFING PACKAGE

**RECOMMENDED ADVANCE NOTICE OF PROPOSED
RULEMAKING FOR CORDED WINDOW COVERINGS**

December 31, 2014

For further information contact:
Rana Balci-Sinha, Project Manager
Directorate for Engineering Sciences
U.S. Consumer Product Safety Commission
(301)987-2584

CPSC Hotline: 1-800-638CPSC (2772) CPSC's Web Site: <http://www.cpsc.gov>

EXECUTIVE SUMMARY

The U.S. Consumer Product Safety Commission (CPSC or the Commission) granted a petition¹ on October 8, 2014, and instructed staff to begin rulemaking to address the strangulation hazard associated with window covering cords.

CPSC staff is aware of at least 11 fatal strangulations related to window covering cords on average per year in the United States among children younger than 5 years old from 1999 to 2010. Staff finds no observable trend in these data and staff is still collecting death certificates for recent years. CPSC staff estimates that 1,590 children up to 8 years old received treatment in United States emergency departments for injuries resulting from window covering cords from 1996 to 2012.

CPSC has identified window covering cord strangulations as one of the top five hidden hazards in a home. CPSC has been working actively to reduce the strangulation risk associated with hazardous cords on window coverings for almost 30 years. CPSC has conducted firm-specific and industry-wide recalls, issued safety alerts, worked with the Window Covering Manufacturers Association (WCMA) on developing and strengthening the voluntary safety standard, cooperated with international government agencies, and participated in window covering safety month every October.

Substantial safety improvements with corded window coverings have occurred in certain areas (*e.g.*, pull cords with single tassels, lifting loops on roll-up blinds, horizontal blind inner cords, and Roman shade inner cords). However, according to CPSC engineering staff's assessment, the ANSI/WCMA voluntary standard, ANSI/WCMA A100.1-2014, *American National Standard for Corded Window Covering Products*, is inadequate to eliminate or further reduce the strangulation hazard to children because an estimated 57 percent of the incidents that occurred could still occur with pull cords and continuous loops on window coverings that meet the current version of the ANSI/WCMA standard. Corded window coverings that comply with the ANSI/WCMA standard warn the user against the risk of strangulation by permanent labels, hang tags, and most recently the retail package or merchandising materials. However, warning labels have limited effectiveness for a product that is familiar, used frequently, not returned to its package, and contains a hidden hazard.

Among the options available to the Commission is issuing a rule specifying performance requirements for window coverings to reduce the risk of injury identified with these products. Staff would develop these performance requirements based on analysis of incident data, laboratory testing, and product technical evaluations. To issue such a rule, the Commission would need to assess the costs and benefits of the performance requirements.

Staff recommends that the Commission approve publication of the draft advance notice of proposed rulemaking (ANPR) in the *Federal Register*. Such notice initiates a rulemaking proceeding that could result in a mandatory rule for corded window coverings.

¹ The petition, CP 13-2, was submitted by Parents for Window Blind Safety, Consumer Federation of America, Consumers Union, Kids in Danger, Public Citizen, U.S. PIRG, Independent Safety Consulting, Safety Behavior Analysis, Inc., and Onder, Shelton, O'Leary & Peterson, LLC.



UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
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This document has been electronically
approved and signed.

Memorandum

December 31, 2014

TO : The Commission
Todd A. Stevenson, Secretary

THROUGH : Stephanie Tsacoumis, General Counsel
Patricia H. Adkins, Executive Director
Robert J. Howell, Deputy Executive Director for Safety Operations

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

Rana Balci-Sinha, Ph.D., CPE, Project Manager
Directorate for Engineering Sciences

SUBJECT : Recommended Advance Notice of Proposed Rulemaking for Corded Window Coverings

I. Introduction

Staff of the U.S. Consumer Product Safety Commission (CPSC or Commission) prepared this briefing package in support of an advance notice of proposed rulemaking (ANPR) for corded window covering products. Much of the information that supports the ANPR can be found in staff's October 1, 2014 briefing package to the Commission assessing a petition requesting that the Commission begin a rulemaking to prevent strangulation of young children on window covering cords (Petition Briefing Package).¹ The petition² requested that the Commission promulgate a mandatory standard that: (a) prohibits any window covering cords, if a feasible cordless alternative exists, and (b) for those instances in which a feasible cordless alternative does not exist, requires that all cords be made inaccessible through the use of passive guarding devices. The Commission granted the petition on October 8, 2014, and instructed the staff to prepare an ANPR.

1

<http://www.cpsc.gov/Global/Newsroom/FOIA/CommissionBriefingPackages/2015/PetitionRequestingMandatoryStandardforCordedWindowCoverings.pdf>.

² <http://www.cpsc.gov/Global/Regulations-Laws-and-Standards/Petitions/WindowCoveringPetition.pdf>.

II. Product Description

Tab E of the Petition Briefing Package provides a review of the various window covering types, associated cords, and associated hazards. Window coverings encompass a variety of products, including shades, blinds, curtains, and draperies. Some products, such as horizontal and roll-up blinds and cellular, pleated, and Roman shades may have inner cords that cause a motion, such as raising and lowering, to achieve the desired level of light control. Other products, such as roller shades, vertical blinds, curtains, and draperies do not contain inner cords but may be operated by continuous loop. The cord or loop that is manipulated by the consumer to operate the window covering is called an “operating cord” and may be in the form of a single cord, multiple cords, or continuous loops. Finally, there are cordless window coverings, which are products designed to function without an operating cord, but which may contain inner cords.

III. Hazard

Young children can strangle on window covering cords when a child is partially or completely suspended with a cord around the child’s neck. The most common type of neck entanglements occur when a child inserts his/her head into a loop (*e.g.*, knotted or entangled pull cords, loops above the stop ball of a cord, continuous loops that are not kept taut). The second type of entanglement occurs when a child wraps one or more pull cords around the neck. A description of each hazard scenario can be found in the Appendix of the briefing memorandum in the Petition Briefing Package.

CPSC staff is aware of at least 11 fatal strangulations related to window covering cords on average per year in the United States among children younger than 5 years old from 1999 to 2010. Staff also estimates that from 1996 through 2012, 1,590 children up to 8 years old received treatment for injuries resulting from entanglements on window covering cords.

CPSC received incident data from several sources, such as newspaper clippings, consumer complaints, death certificates purchased from states, medical examiners’ reports, and other state/local authorities. Using data from these sources from January 1996 through December 2012, staff found a total of 285 reported fatal and nonfatal strangulation incidents involving window coverings among children 8 years of age or younger. Of the 285 incidents, 184 resulted in fatality. Tab B of the Petition Briefing Package contains a detailed review of the incident data and hazard patterns associated with window covering cords.

Strangulation with cords happens silently and occurs in a matter of minutes. Relying on parental supervision is not likely to be effective to eliminate or significantly reduce the hazard with scenarios involving young children left unsupervised for a few minutes or more in a room that is considered safe, such as a bedroom or family room. An explanation of the physiology of strangulation and the human factors issues involved in the hazard can be found in Tabs C and D respectively in the Petition Briefing Package.

IV. Existing Voluntary Standard

The ANSI/WCMA A100.1-2014, *American National Standard for Corded Window Covering Products* (ANSI/WCMA standard or voluntary standard), establishes voluntary safety performance and labeling requirements for window coverings sold in the United States. The Window Covering Manufacturers Association (WCMA) represents the interests of the window covering industry manufacturers, fabricators and assemblers. WCMA, an American National Standards Institute (ANSI) – accredited standards developer, developed the voluntary standard using the ANSI procedures. WCMA is responsible for revisions to, and maintenance of, the standard. The standard was first published in 1996, and subsequently, was revised six times. The latest version was published in 2014.

A. Performance Requirements in the ANSI/WCMA Standard

Tab E of the Petition Briefing Package contains CPSC engineering staff's assessment of the performance requirements in the 2014 version of the ANSI/WCMA standard. According to engineering staff's assessment, the 2014 version of the ANSI/WCMA standard would have addressed the hazards in 25.7 percent (64/249) of the investigated incidents, while hazards reported in 56.6 percent (141/249) would not have been addressed by the standard. Insufficient information is available to draw any conclusions for the remaining 17.7 percent (44/249) of the investigated incidents. Engineering staff determined that the voluntary standard is inadequate because at least 57 percent of the incidents that occurred could still occur with pull cords and continuous loops on window coverings that meet the current version of the ANSI/WCMA standard. The engineering assessment used the 2014 version of the standard to determine if the incident would have occurred today, if the incident unit met the current ANSI/WCMA standard. This assessment was made regardless of compliance with the standard at the time of the incident.

Specifically, engineering staff found that four provisions in the ANSI/WCMA standard continue to expose young children to hazardous pull cords and continuous loops:

- Section 4.3.2 of the WCMA standard: the product shall have one or more separate operating cords.
- Section 4.3.7 of the WCMA standard: the product shall contain a cord tension device that will at least partially prevent the window covering from functioning for light control or privacy when not installed.
- Section 4.3.9 of the WCMA standard: the cord connector shall limit the exposed loop above the cord connector to less than 3 inches below the bottom of the cord lock when the bottom rail is fully lowered.
- 6.5.2 The tension device in conjunction with the product shall be designed so when not properly installed will, at least partially, prevent the window covering from functioning for control or privacy.

Staff has repeatedly raised concerns regarding the pull cord and continuous loop hazards to WCMA, emphasizing that either eliminating access to the pull cords or making accessible cords nonhazardous in raised or lowered heights of the window covering would greatly reduce the incidents. Most recently, on July 22, 2014, CPSC staff sent a letter to WCMA suggesting

revisions to the voluntary standard that would address the strangulation hazard created by pull cords and continuous loops on window coverings.³ WCMA responded to staff's letter on August 29, 2014.⁴

WCMA believes that cord cleats, a device around which a cord can be wound and can be attached to a wall or other structure, or that is integral with the product, can help reduce incidents associated with pull cords. WCMA intends to use an expedited approval process to add cord cleats as a requirement to the ANSI/WCMA standard with the objective of harmonizing the standard with the latest version of the Canadian standard (CAN/CSA Z600 window covering standard).

Staff has several concerns with cord cleats. Cord cleats require the user to remove and then secure the cord to the cleat each time the window covering is raised or lowered to mitigate the hazard, which consumers may feel to be a nuisance and not do, thus voiding the protections ostensibly provided. In addition, failure to install a cord cleat will not cause the window covering to cease operating as intended, which may also serve to reduce the protection provided. Indeed, many stock products already come with cord cleats in the box, so the degree to which they are installed and used is in question. For example, in a 2010 incident, a 4-year-old child who was standing on the back of a couch, reached the pull cords that were usually wrapped around the cord cleat, but not on the day of the incident.⁵ When cord cleats are installed, consumers still need to be aware that children can climb up to get to the cords, as observed in a 2005 incident in which a 4-year-old child moved a small plastic table over to a nearby window, climbed upon the table, reached up and removed the pull cord from the cleat.⁶ Furthermore, even if cleats are used to wrap excess pull cords, the cords above the cleat present a strangulation hazard.⁷ A cord cleat retrofit program may benefit consumers who become aware of the hazard and want to mitigate the pull cord hazard. However, staff believes that consumers who respond to a recall likely install and use cord cleats more consistently than consumers who are unaware of the hazard. Consumers who are unaware of the hazard may overlook the cord cleat and operating the product does not require installing and using cord cleats.

Regarding continuous loops and tension devices, CPSC staff's in-depth investigation (IDI) of 70 incidents associated with entanglement in a continuous loop cord showed that the majority of the incident units did not have a tension device installed on the continuous loop. Staff recognizes that tension devices, when properly installed and intact, keep the looped cords taut and do not allow a child's head to enter into the loop. If tension devices are not installed, are installed improperly, or are removed from the cord, a hazardous loop is present.

³ http://www.cpsc.gov/PageFiles/170256/WCMA_Ltr_22_July_2014.pdf.

⁴ http://www.cpsc.gov/PageFiles/170642/WCMALettertoGBorlase8_29.pdf.

⁵ IDI 110103CCC3322.

⁶ IDI 050407CCC3309.

⁷ <http://www.cpsc.gov/PageFiles/121510/5009a.pdf>.

The draft ANPR invites comments on the installation and use of external safety devices, such as cord cleats and tension devices, and their effectiveness in mitigating the strangulation hazard to young children.

B. Warning Labels Required in the ANSI/WCMA Standard

The 2014 version of the ANSI/WCMA standard requires a number of warning labels and hangtags on window coverings. Both the warning labels and hangtags contain pictograms, as well as warning statements.

Warning labels are intended to alert the user of the strangulation hazard and to keep cords away from children and to warn caregivers to move furniture away from cords because children can climb on furniture to reach cords. Warning labels and hangtags have been part of the ANSI/WCMA standard since its first publication in 1996. The voluntary standard adopted in 2009 required a hangtag that must be attached to the lower most section of the inner cord on the back side of a Roman shade. The standard was amended in 2012 to require that a warning label be placed on the product package (or on merchandising material for custom products) and displayed conspicuously. The requirement to include warnings on retail packaging and merchandising materials was intended to warn consumers about the strangulation hazard associated with accessible cords so that consumers can make an informed purchasing decision. Staff believes that this requirement is potentially beneficial for consumers who either learn of the hazard by reviewing the warning material or are aware of the hazard and are looking for a safer product to purchase. However, consumers who are not the original purchasers of the product will not benefit from this information because the packaging is discarded after the product is installed.

Research demonstrates that warning labels should first be visible and noticeable. Warning labels should also have design characteristics that encourage the user to stop and read the warning. Effective labels state the hazard, explain the consequences of the hazard, and provide instructions on how to avoid the hazard, using explicit text to improve comprehension. Staff believes that the warning labels on window coverings currently carry design characteristics to make them visible and noticeable. For example, warnings that are placed directly on the product are more noticeable than the warnings listed in a “distant” instruction manual (Wogalter *et al.*, 1987). Permanent warning labels⁸ and operational hangtags⁹ are on the product and follow ANSI Z535.4, American National Standard for Product Safety Signs and Labels; the word “Warning” is in all capital letters and printed in an orange color. The required warning messages that are on the warning labels and hang tags explain the nature of the hazard, the consequences of the hazard, and provide instructions on how to avoid the hazard, as recommended in the warning literature (Wogalter and Laughery, 2006). In addition, the labels have a pictogram that should

⁸ A permanent marking or label cannot be removed or, during an attempt to manually remove it without the aid of tools or solvents, the marking or label tears apart or damages the surface to which it is attached.

⁹ Operational hangtags contain information based on the characteristics of the product or the safety devices included on the product.

increase their noticeability because pictograms help capture users' attention (Wogalter and Leonard 1999).

Even though the warning labels required by the ANSI/WCMA standard meet the usual criteria for what is considered a well-designed warning label, CPSC staff believes that the labels have limited effectiveness in changing the user's behavior in purchasing and using window coverings. The inherent problem with the strangulation hazard associated with window covering cords and warning labels is that people are less likely to read instructions or recognize potential hazards associated with the products that they use more frequently (Godfrey *et al.*, 1994). Research demonstrates that high familiarity with a product can lower a user's inclination to read warnings or reduce the likelihood that the user will believe such information, which lowers the rate of compliance with the warning (Riley, 2004). Window coverings are decorative products providing utility and are found in every household in one form or another. Consumers interact with window coverings daily; and experienced users are likely to repeat behaviors with little conscious thought, especially on a product that they have had numerous prior experiences (Riley, 2004).

Even after users notice and read the warning label, comprehend the message, and make the decision to follow the instructions, they must comply with the warning, as instructed, to mitigate the hazard. Users' actual ability to comply with a warning is affected by the cost of compliance, which includes effort, time, and perceived compromise in product performance, as well as expense. In the case of window coverings, safety recommendations, other than purchasing inherently safe products (*e.g.*, cordless products or products with inaccessible cords), such as keeping cords out of reach of children, moving furniture away from cords, installing a tension device to the wall or floor, and installing cord cleats, entail significant limitations or demand a high cost of compliance. For example, depending on the room design limitations, consumers may not have the ability to keep cords away from furniture. Additionally, requiring consumers to wrap the pull cords around the cord cleat each and every time the window covering is raised or lowered leads to potential errors, such as forgetting the intended action during the routine use of the product.

V. Other Standards and International Efforts to Address the Hazard

CPSC engineering staff compared the ANSI/WCMA standard with three international standards and concluded that the ANSI standard developed by WCMA is one of the strongest standards in the world. Petition Briefing Package, Tab E at 124-130. The three international standards reviewed specify requirements for the safety of window coverings:

- Competition and Consumer (Corded Internal Window Coverings) Safety Standard 2014 published in Australia (Australian standard),
- Corded Window Covering Products Regulations (SOR/2009-11) and CAN/CSA-Z600-14 Safety of Corded Window Covering Products published in Canada, which is based on the 2012 ANSI/WCMA standard with some modifications (Canadian standard), and

- EN 13120:2009+A1:2014 Internal blinds- Performance requirements including safety, EN 16433:2014 Internal blinds — Protection from strangulation hazards —Test methods, and EN 16434:2014 Internal blinds — Protection from strangulation hazards. Requirements and test methods for safety devices published by European Committee for Standardization (European standard).

In February 2012, participating staff of the Australia Competition and Consumer Commission, Health Canada, European Commission Directorate General for Health & Consumers, and the CPSC reached a consensus on a document that describes approaches to addressing the strangulation hazard related to corded window coverings (see Petition Briefing Package, Briefing Memorandum). The document includes a hierarchy of the various solutions, recognizing that different approaches may be necessary for making different types of products safe. The consensus document states that the top of the hierarchy of safe solutions for window coverings are the following:

- The product has no accessible cords under any conditions of foreseeable use or misuse.
- The product has accessible cords that cannot form a hazardous loop under any conditions of foreseeable use or misuse, including failure to heed warnings or incorrect installation.

VI. Market for Window Coverings

The Directorate for Economic Analysis (EC) provided information on the market for window coverings in Tab G of the Petition Briefing Package. Based on 2011 data, more than 350 manufacturers and more than 1,800 retailers of window coverings operate in the United States. Staff researched retail prices of window coverings and found that the average price ranges from approximately \$50 to \$440 for shades and from approximately \$10 to \$360 for blinds. EC staff compared the retail sales prices of cordless and corded products and found that manually operated cordless window coverings may cost approximately \$15 to \$130 more than similar corded window coverings. The observed prices of motor-operated window coverings are more than \$100 higher than the prices of corded window coverings, and the price differences can exceed \$300. Some wand-operated vertical blinds cost about the same as corded versions; others appear to cost about \$10 more than corded vertical blinds. Staff has insufficient information to determine how the costs or retail prices of window coverings with inaccessible cords will change over time. Staff invites public comment on the difference in cost to manufacturers to produce cordless products, products with inaccessible cords (*e.g.*, products with cord shroud or cord retractors), and corded products by product type. In addition, staff would like to know whether, how, and to what degree production volume affects manufacturing costs.

According to a study conducted by D&R International, Ltd., shipments of residential window coverings from manufacturers may have amounted to about 100 million to 150 million units in

the United States in 2012 (D&R, 2013).¹⁰ WCMA engaged the consulting firm D&R International to conduct the study. D&R International received funding for the study from WCMA and the U.S. Department of Energy (DOE), through Lawrence Berkeley National Laboratory (LBNL). D&R based these estimates on information (including shipment, pricing, retail, and manufacturing data) provided by WCMA members, U.S. Census Bureau reports of vinyl blind imports, and data collected from a WCMA-funded Internet survey of U.S. households, which D&R also conducted as part of the study. WCMA participated in designing and implementing the Internet survey. D&R developed a research plan in consultation with WCMA, with input from LBNL. DOE, through LBNL, provided funding to analyze the Internet survey and prepare the report.

Staff calculates that there may be more than 1 billion window coverings in use in U.S. homes, based on the D&R estimates and U.S. housing statistics. The draft ANPR invites public comment on the number of window coverings that are in use in U.S. households by window covering type so that information obtained by the D&R study can be verified or corrected.

Staff does not have precise information on the sales of cordless window coverings or window coverings with inaccessible cords. Based on discussions with industry participants and review of a major retailer's website, sales of cordless window coverings may amount to as much as 25 percent of the market. The draft ANPR invites public comment on the market for cordless products and products with inaccessible cords, including annual dollar sales and unit sales by window covering type, for stock and custom-made products.

VII. Preliminary Estimates of Societal Costs

Tab G of the Petition Briefing Package estimates societal costs associated with deaths and injuries from corded window covering products. Based on deaths reported from 1999 through 2010, and medically attended injuries from 1996 through 2012, the societal costs associated with deaths and injuries involving window covering cords are estimated to have amounted to an average of \$110.7 million annually. EC staff estimated that an average of approximately 20 percent of the window coverings¹¹ were cordless (or did not have accessible cords) during the 1996 through 2012 time period, which suggests that these injuries and deaths were associated with the roughly 832 million window coverings in use that had accessible cords.

Based on the estimates provided in the Petition Briefing Package, staff estimates that the societal costs may have amounted to an average of about \$0.13 per corded window covering per year

¹⁰ D&R International, Ltd. (September 2013). *Residential windows and window coverings: A detailed view of the installed base and user behavior (DOE/EE-0965)*. U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Washington DC. September, 2013. Available at: <http://energy.gov/eere/buildings/downloads/residential-windows-and-window-coverings-detailed-view-installed-base-and>

¹¹ Based on EC staff's estimate that about 25 percent of current market sales consist of cordless products, the increasing availability and sales of cordless products in recent years, and the assumption that only about one-third of curtains and draperies have cords.

(i.e., \$110.7 million ÷ 832 million window coverings) during the years since the late 1990s. Additionally, because window coverings remain in use for an average of about 7 years, the expected present value of the annual societal costs (discounted at a rate of 3.0 percent) would average about \$0.85 per corded covering over its expected product life.¹² The draft ANPR invites comments on EC staff's assumptions, including the expected product life of blinds and shades that are currently being sold in the marketplace.

VIII. Regulatory Alternatives to Address the Risk of Strangulation Associated with Window Coverings

One or more of the following alternatives could be used to reduce the identified risks associated with window coverings:

1. **Mandatory Rule:** The Commission could issue a rule under the Consumer Product Safety Act (CPSA) establishing performance requirements for window coverings to prevent or reduce an unreasonable risk of injury associated with window coverings.
2. **Labeling Rule:** The Commission could issue a rule under the CPSA establishing requirements for warnings and instructions for window coverings to prevent or reduce an unreasonable risk of injury associated with window coverings.
3. **Banning Rule:** The Commission could issue a rule banning corded window coverings if the Commission determined that no feasible standard would adequately protect the public.
4. **Voluntary Standard:** If the Commission determines that the voluntary standard adequately addresses the risk and there is substantial compliance to the standard, then the Commission could defer to the voluntary standard instead of issuing a mandatory rule.

IX. Discussion of Regulatory Alternatives

The draft ANPR presents all the following regulatory alternatives for Commission's consideration:

1. Mandatory Rule:

The Commission could issue a rule specifying performance requirements for corded window coverings to reduce the risk of injury identified with these products. For example, to address the pull cord and continuous loop hazards, one option may be to develop a mandatory rule that is similar to the current ANSI/WCMA standard, which provides manufacturers a list of options to make safe window coverings. Such a rule could require that pull cords and continuous loops be tested for accessibility similar to the inner cords that are currently required by the standard. If

¹² EC staff's choice of discount rate is consistent with research suggesting that a real rate of 3 percent is an appropriate discount rate for interventions involving public health. See, for example, Gold et al. (1996) or Haddix et al. (2003).

accessible cords are found, a hazardous loop test procedure, similar to the current procedure, but with some modifications, could be applied to determine if cords can create a hazardous loop.

Another option for a mandatory rule would be to issue a rule consistent with the petitioners' request, which would prohibit window covering cords if a feasible cordless alternative exists, and for those instances where a feasible cordless alternative does not exist, require that all cords be made inaccessible through the use of passive guarding devices.

A third option for a mandatory rule may be to model such rule after one of the enumerated international standards in section V or relevant parts of such standards.

For any mandatory rule, the Commission could issue a rule that focuses on performance requirements or could issue a rule that includes performance requirements and labeling requirements (Option 2) to address the risk of strangulation. Staff is interested in comments on the approaches described above, as well as any other suggestions to develop a mandatory standard to address the risk of injury associated with window covering cords.

To issue a mandatory standard, the Commission would need to assess the costs and benefits of the requirements. Accordingly, staff is interested in an assessment of the costs and benefits associated with options for a mandatory rule.

2. Labeling Rule:

The Commission could issue a mandatory rule that relies on warning labels. Staff is concerned that warning labels have limited effectiveness for a product that is familiar, used frequently, and contains a hidden hazard as explained in Section IV.B. The draft ANPR invites comments on:

- the effectiveness of the warning labels required in the ANSI/WCMA standard,
- new or proposed changes to the ANSI/WCMA required labels to better address the strangulation hazard, and
- costs to manufacturers of labeling requirements.

3. Banning Rule

The Commission could issue a rule banning corded window coverings if the Commission determined that no feasible standard would adequately protect the public. The Commission would also need to assess the costs and benefits of banning corded window covering products.

4. Voluntary Standard:

The Commission could rely on the voluntary standard in lieu of issuing a mandatory rule, if the Commission determines that the voluntary standard is adequate and that there is substantial compliance with the standard.

As explained in the Petition Briefing Package, according to CPSC engineering staff's assessment, the current version of the ANSI/WCMA voluntary standard, ANSI/WCMA A100.1-

2014, *American National Standard for Corded Window Covering Products*, is inadequate to eliminate or reduce the strangulation hazard to children because at least 57 percent of the incidents that occurred could still occur with pull cords and continuous loops on window coverings that meet the current version of the ANSI/WCMA standard.

Regarding compliance with the standard, WCMA previously stated that manufacturers of window coverings are in substantial compliance with the voluntary standard. Staff has some anecdotal information on product compliance and incident hazard patterns that lend support to WCMA's assertion that products substantially comply with the voluntary standard. However, staff cannot estimate the proportion of annual sales of window covering products that comply. The draft ANPR invites public comment on the degree of compliance with the voluntary standard, ways in which the Commission can assess the degree of compliance, as well as the level of conformance for various types of window coverings.

X. Non-Regulatory Alternatives

The draft ANPR also discusses the following non-regulatory alternatives:

Recalls

The Commission could continue to rely on recalls to address hazards associated with window coverings. For example, CPSC and WCMA announced joint recalls to eliminate the loops on pull cords that end in one tassel, by offering free tassels; to reduce the incidents associated with horizontal blind inner cords, by offering free inner cord stops, and provide repair kits to remove inner cords from Roman shades. The ANSI/WCMA standard was revised accordingly after these recalls to add performance requirements associated with these hazards. However, to date, no recalls have been done to solve the issue of pull cords ending in separate tassels or continuous loops that did not require an external tension device be installed. Thus, just like a mandatory rule, relying on recalls to address hazards associated with continuous loops and pull cords would also require a solution from manufacturers to implement for the products that have been sold and for future production. Staff is also concerned that relying on recalls requires staff to establish independently that each window covering in question presents a substantial product hazard. In addition, a recall of an individual manufacturer's window covering has no binding effect on other manufacturers who may have similar products that present the same hazard.

Public Education

The Commission could continue to pursue public information and education campaigns. In addition to compliance activities, CPSC has been warning parents of the danger of child strangulation due to corded window coverings since the first safety alert was issued in 1985. CPSC has identified window coverings as one of the top five hidden home hazards.¹³ Every October, CPSC participates in National Window Covering Safety Month to urge parents and

¹³ <http://www.cpsc.gov/PageFiles/165163/hidden.pdf>.

caregivers to check their window coverings for exposed and dangling cords and to take precautions. CPSC and the Window Covering Safety Council (WCSC) recommend cordless window coverings or window coverings with inaccessible cords at homes where young children live or visit. CPSC reaches out to consumers to create awareness of the hazards associated with corded window coverings. Staff does not have information to assess the effectiveness of public education efforts carried out to date; however, the lack of an observable trend in the data over this time period indicates that such a measure is not effectively reducing the risk. The draft ANPR invites comments on the characteristics of an effective public education campaign and ways to measure the effectiveness.

XI. Request for Information and Comments

The draft ANPR solicits information on a wide variety of topics relating to hazards associated with window covering cords. A specific list of questions can be found in the draft ANPR.

XII. Staff Recommendation

Staff recommends that the Commission approve publication of an ANPR in the *Federal Register* that initiates a rulemaking proceeding that could result in a mandatory rule for corded window coverings. The Office of the General Counsel prepared a draft ANPR that would commence a rulemaking proceeding under the CPSA for corded window coverings. The draft ANPR discusses the products, the risk of injury, and regulatory alternatives to address the risk of injury. The draft ANPR also solicits written comments from interested persons.

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