§ 1213.7 Findings.

The Consumer Product Safety Act requires that the Commission, in order to issue a standard, make the following findings and include them in the rule. 15 U.S.C. 2058(f)(3).

(a) *The rule (including its effective date) is reasonably necessary to eliminate or reduce an unreasonable risk of injury associated with the product.* (1) For a recent 8.75-year period, the CPSC received reports of 57 deaths of children under age 15 who died when they were trapped between the upper bunk of a bunk bed and the wall or when they were trapped in openings in the bed's end structure. Over 96% of those who died in entrapment incidents were age 3 or younger. On average, averting these deaths would produce a benefit to society with a present value of about $175 to $350 for each bed that would not comply with one or more of the rule's requirements.

(2) This increased safety would be achieved in two ways. First, all bunk beds would be required to have a guardrail on both sides of the bed. If the bed is placed against a wall, the guardrail on that side is expected to prevent a child from being entrapped between the bed and the wall. The guardrail on the wall side of the bed must extend continuously from one end to the other. Second, the end

structures of the bed will have to be constructed so that, if an opening in the end structure is large enough so a child can slip his or her body through it, it must be large enough that the child's head also can pass through.

(3) For the reasons discussed in paragraph (d) of this section, the benefits of the changes to bunk beds that will be caused by this rule have a reasonable relationship to the changes' costs. The rule addresses a risk of death, and applies primarily to a vulnerable population, children under age 3. The life-saving features required by the rule are cost-effective and can be implemented without adversely affecting the performance and availability of the product. The effective date provides enough time so that production of bunk beds that do not already comply with the standard can easily be changed so that the beds comply. Accordingly, the Commission finds that the rule (including its effective date) is reasonably necessary to eliminate or reduce an unreasonable risk of injury associated with the product.

(b) *Promulgation of the rule is in the public interest.* For the reasons given in paragraph (a) of this section, the Commission finds that promulgation of the rule is in the public interest.

(c) *Where a voluntary standard has been adopted and implemented by the affected industry, that compliance with such voluntary standard is not likely to result in the*

elimination or adequate reduction of the risk of injury; or it is unlikely that there will be substantial compliance with such voluntary standard.

(1) *Adequacy of the voluntary standard.* (i) In this instance, there is a voluntary standard addressing the risk of entrapment in bunk beds. However, the proposed rule goes beyond the provisions of the voluntary standard. First, it eliminates the voluntary standard's option to have an opening of up to 15 inches at each end of the wall-side guardrail. Second, it requires more of the lower bunk end structures to have entrapment protection. The voluntary standard protects against entrapment only within the 9-inch space immediately above the upper surface of the lower bunk's mattress. The mandatory standard extends this area of protection upward to the level of the underside of the upper bunk foundation. Both of these provisions, which are in the rule but not in the voluntary standard, address fatalities and, as noted below, have benefits that bear a reasonable relationship to their costs. Furthermore, the absence of any identification of the manufacturer on many beds has resulted in extremely low recall effectiveness rates. The standard requires that the name and address of the manufacturer, distributor, or retailer be on the beds.

(ii) Therefore, the Commission finds that compliance with the voluntary standard is not likely to result in the

elimination or adequate reduction of the risk of entrapment injury or death.

(2) *Substantial compliance.* (i) Neither the CPSA nor the FHSA define "substantial compliance." In dealing with this issue as it applies to bunk beds, the Commission concludes that substantial compliance does not exist where a mandatory rule would achieve a higher degree of compliance. Two key, although not necessarily exclusive, considerations in making this determination are (i) whether, as complied with, the voluntary standard would achieve virtually the same degree of injury reduction that a mandatory standard would achieve and (ii) whether the injury reduction will be achieved in a timely manner.

(ii) The Commission has considered carefully the particular characteristics of the bunk bed industry. This industry is highly diverse and fragmented, with differing levels of sophistication relating to product safety. Firms can easily enter and leave the bunk bed manufacturing business. This fragmentation and diversity contributes to difficulties in achieving more complete compliance with the voluntary standard. Because it is difficult to identify all firms in the industry, it is difficult for voluntary standards organizations and trade associations to conduct outreach and education efforts regarding the voluntary standard. By contrast, in industries with a small number of

firms, it is easier to find the firms and educate them about the existence and importance of voluntary standards. Mandatory standards—codified in the accessible Code of Federal Regulations—are easier to locate, and their significance is more obvious.

(iii) These generalizations about the industry are supported by the CPSC's staff's enforcement experience. Some manufacturers contacted by CPSC's Compliance staff did not see an urgency to comply with a "voluntary" standard, and they did not recognize the hazards associated with noncompliance. Other manufacturers were not even aware of the standard. As a result, entrapment hazards would continue to exist on beds, in use and for sale, in the absence of a mandatory standard.

(iv) A mandatory standard will also reduce the staff's workload in ensuring that children are not exposed to bunk beds presenting entrapment hazards. In the past several years, the staff has expended significant resources to obtain the current level of conformance to the voluntary standard. The Commission expects that fewer resources will be required to enforce the mandatory standard than are currently being used to identify defective bunk beds.

(v) For the foregoing reasons, the Commission believes that a mandatory bunk bed entrapment standard is needed. This mandatory standard would bring the following benefits:

(A) A mandatory standard could increase the awareness and sense of urgency of manufacturers in this industry regarding compliance with the entrapment provisions, thereby increasing the degree of conformance to those provisions.

(B) A mandatory standard allows the Commission to seek penalties for violations. Publicizing fines for noncompliance with a mandatory standard would deter other manufacturers from making noncomplying beds.

(C) A mandatory standard allows state and local officials to assist CPSC staff in identifying noncomplying bunk beds and to take action to prevent the sale of these beds.

(D) Under a mandatory standard, retailers and distributors violate the law if they sell noncomplying bunk beds. For that reason, retailers and retail associations will insist that manufacturers and importers provide complying bunk beds.

(E) The bunk bed industry is extremely competitive. Manufacturers who now conform to the voluntary standard have expressed concern about those firms that do not. Nonconforming beds can undercut the cost of conforming beds. A mandatory standard will take away any competitive cost advantage for unsafe beds.

(F) A mandatory standard would help prevent noncomplying beds made by foreign manufacturers from entering the United States. CPSC could use the resources of U.S. Customs to assist in stopping hazardous beds at the docks.

(3) Therefore, there is not substantial compliance with the voluntary standard. (This does not mean that the Commission would conclude that a mandatory standard will always be more effective than a voluntary standard. Each case must be considered on its own facts.)

(d) *The benefits expected from the rule bear a reasonable relationship to its costs.* (1) *Compliance with ASTM's requirements.* The cost of providing a second guardrail for bunk beds that do not have one is expected to be from $15-40 per otherwise noncomplying bed. If, as expected, the standard will prevent virtually all of the deaths it addresses, the present value of the benefits of this modification are estimated to be from $175-350 per otherwise noncomplying bed. Thus, the benefit of this provision is about 4-23 times its cost.

(2) *Providing a continuous guardrail.* The voluntary standard allows up to a 15-inch gap in the coverage of the guardrail on the wall side of the upper bunk. Additional entrapment deaths can be addressed by requiring that the wall-side guardrail be continuous from one end of the bed to

the other. The estimated present value of the benefits of this requirement is $2.40 to $3.50 per otherwise noncomplying bed. The Commission estimates that the materials cost to extend one guardrail an additional 30 inches will be less than the present value of the benefits of making the change. Further, the costs of any design changes can be amortized over the number the bunk beds manufactured after the design change is made. Thus, the costs of any design change would be nominal.

(3) *Lower bunk end structures*. The Commission is aware of a death, involving entrapment in the end structures of the lower bunk, occurring in a scenario not currently addressed by the voluntary standard. This death would be addressed by extending the voluntary standard's lower bunk end structures entrapment provisions from 9 inches above the lower bunk's sleeping surface to the bottom of the upper bunk. The Commission expects the costs of this requirement to be design-related only, and small. Indeed, for some bunk beds, materials costs may decrease since less material may be required to comply with these requirements than is currently being used. Again, the design costs for this modification to the end structures can be amortized over the subsequent production run of the bed.

(4) *Effect on market*. The small additional costs from any wall guardrail and end structure modifications are not

expected to affect the market for bunk beds, either alone or added to the costs of compliance to ASTM's provisions.

(5) *Conclusion*. The Commission has no reason to conclude that any of the standard's requirements will have costs that exceed the requirement's expected benefits. Further, the total effect of the rule is that the benefits of the rule will exceed its costs by about 4-23 times. Accordingly, the Commission concludes that the benefits expected from the rule will bear a reasonable relationship to its costs.

(e) *The rule imposes the least burdensome requirement that prevents or adequately reduces the risk of injury for which the rule is being promulgated.* (1) The Commission considered relying on the voluntary standard, either alone or combined with a third-party certification program. However, the Commission concludes that a mandatory program will be more effective in reducing these deaths. Accordingly, these alternatives will not prevent or adequately reduce the risk of injury for which the rule is being promulgated.

(2) The Commission also considered a suggestion that bunk beds that conformed to the voluntary standard be so labeled. Consumers could then compare conforming and nonconforming beds at the point of purchase and make their purchase decisions with this safety information in mind.

This, however, would not necessarily reduce injuries, because consumers likely do not know there is a voluntary standard and thus would not see any risk in purchasing a bed that was not labeled as conforming to the standard.

(3) For the reasons stated above, no alternatives to a mandatory rule have been suggested that would adequately reduce the deaths caused by entrapment of children in bunk beds. Accordingly, the Commission finds that this rule imposes the least burdensome requirement that prevents or adequately reduces the risk of injury for which the rule is being promulgated.

2. The authority citation for part 1500 continues to read:

Authority: 15 U.S.C. 1261-1278.

3. A new section 1500.18(a)(18) is added to Subchapter C to read as follows:

(Portions of unchanged paragraph (a) are included for context.)

§ 1500.18 Banned toys and other banned articles intended for use by children.

(a) *Toys and other articles presenting mechanical hazards.* . . . [T]he Commission has determined that the following types of toys or other articles intended for use by children present a mechanical hazard within the meaning of section 2(s) of the act because in normal use, or when subjected to reasonably foreseeable damage or abuse, the design or manufacture presents an unreasonable risk of personal injury or illness:

* * * * *

(18) (i) Any bunk bed (as defined in § 1513.2(c) of this chapter) that does not comply with the requirements of part 1513 of this chapter.

(ii) *Findings*—(A) *General.* In order to issue a rule under Section 3(e) of the Federal Hazardous Substances Act (FHSA), 15 U.S.C. 1262(e), classifying a toy or other article intended for use by children as a hazardous substance on the basis that it presents a mechanical hazard (as defined in Section 2(s) of the FHSA), the FHSA requires the Commission to make certain findings and to include these findings in the regulation. These findings are discussed in paragraphs (a)(18)(B)-(D) of this section.

(B) *Where a voluntary standard has been adopted and implemented by the affected industry, that compliance with such voluntary standard is not likely to result in the elimination or adequate reduction of the risk of injury, or it is unlikely that there will be substantial compliance with such voluntary standard.*

(1) *Adequacy of the voluntary standard.* (i) In this instance, there is a voluntary standard addressing the risk of entrapment in bunk beds. However, the rule goes beyond the provisions of the voluntary standard. First, it eliminates the voluntary standard's option to have an opening of up to 15 inches at each end of the wall-side guardrail. Second, it requires more of the lower bunk end structures to have entrapment protection. The voluntary standard protects against entrapment only within the 9-inch space immediately above the upper surface of the lower

bunk's mattress. The mandatory standard extends this area of protection upward to the level of the underside of the upper bunk foundation. Both of these provisions, which are in the rule but not in the voluntary standard, address fatalities and, as noted below, have benefits that bear a reasonable relationship to their costs. Furthermore, the absence of any identification of the manufacturer on many beds has resulted in extremely low recall effectiveness rates. The standard requires that the name and address of the manufacturer, distributor, or retailer be on the beds.

(ii) Therefore, the Commission finds that compliance with the voluntary standard is not likely to result in the elimination or adequate reduction of the risk of entrapment injury or death.

(2) *Substantial compliance*. (i) Neither the CPSA nor the FHSA define "substantial compliance." In dealing with this issue as it applies to bunk beds, the Commission concludes that substantial compliance does not exist where a mandatory rule would achieve a higher degree of compliance. Two key, although not necessarily exclusive, considerations in making this determination are whether, as complied with, the voluntary standard would achieve virtually the same degree of injury reduction that a mandatory standard would achieve and whether the injury reduction will be achieved in a timely manner.

(ii) The Commission has considered carefully the particular characteristics of the bunk bed industry. This industry is highly diverse and fragmented, with differing levels of sophistication relating to product safety. Firms can easily enter and leave the bunk bed manufacturing business. This fragmentation and diversity contributes to difficulties in achieving more complete compliance with the voluntary standard. Because it is difficult to identify all firms in the industry, it is difficult for voluntary standards organizations and trade associations to conduct outreach and education efforts regarding the voluntary standard. By contrast, in industries with a small number of firms, it is easier to find the firms and educate them about the existence and importance of voluntary standards. Mandatory standards—codified in the accessible Code of Federal Regulations—are easier to locate, and their significance is more obvious.

(iii) These generalizations about the industry are supported by the CPSC staff's enforcement experience. Some manufacturers contacted by CPSC's Compliance staff did not see an urgency to comply with a "voluntary" standard, and they did not recognize the hazards associated with noncompliance. Other manufacturers were not even aware of the standard. As a result, entrapment hazards would continue to exist on beds, in use and for sale, in the absence of a mandatory standard.

(iv) A mandatory standard will also reduce the staff's workload in ensuring that children are not exposed to bunk beds presenting entrapment hazards. In the past several years, the staff has expended significant resources to obtain the current level of conformance to the voluntary standard. The Commission expects that fewer resources will be required to enforce the mandatory standard than are currently being used to identify defective bunk beds.

(v) For the foregoing reasons, the Commission believes that a mandatory bunk bed entrapment standard is needed. This mandatory standard would bring the following benefits:

(A) A mandatory standard could increase the awareness and sense of urgency of manufacturers in this industry regarding compliance with the entrapment provisions, thereby increasing the degree of conformance to those provisions.

(B) A mandatory standard allows the Commission to seek penalties for violations. Publicizing fines for noncompliance with a mandatory standard would deter other manufacturers from making noncomplying beds.

(C) A mandatory standard allows state and local officials to assist CPSC staff in identifying noncomplying bunk beds and to take action to prevent the sale of these beds.

(D) Under a mandatory standard, retailers and distributors violate the law if they sell noncomplying bunk beds. For that reason, retailers and retail associations will insist that manufacturers and importers provide complying bunk beds.

(E) The bunk bed industry is extremely competitive. Manufacturers who now conform to the voluntary standard have expressed concern about those firms that do not. Nonconforming beds can undercut the cost of conforming beds. A mandatory standard will take away any competitive cost advantage for unsafe beds.

(F) A mandatory standard would help prevent noncomplying beds made by foreign manufacturers from entering the United States. CPSC could use the resources of U.S. Customs to assist in stopping hazardous beds at the docks.

(vi) Therefore, there is not substantial compliance with the voluntary standard. (This does not mean that the Commission would conclude that a mandatory standard will always be more effective than a voluntary standard. Each case must be considered on its own facts.)

(C) *The benefits expected from the rule bear a reasonable relationship to its costs.* (1) *Compliance with ASTM's requirements.* The cost of providing a second

guardrail for bunk beds that do not have one is expected to be from $15-40 per otherwise noncomplying bed. If, as expected, the standard will prevent virtually all of the deaths it addresses, the present value of the benefits of this modification are estimated to be from $175-350 per otherwise noncomplying bed. Thus, the benefit of this provision is about 4-23 times its cost.

(2) *Providing a continuous guardrail*. The voluntary standard allows up to a 15-inch gap in the coverage of the guardrail on the wall side of the upper bunk. Additional entrapment deaths can be addressed by requiring that the wall-side guardrail be continuous from one end of the bed to the other. The estimated present value of the benefits of this requirement is $2.40 to $3.50 per otherwise noncomplying bed. The Commission estimates that the materials cost to extend one guardrail an additional 30 inches will be less than the present value of the benefits of making the change. Further, the costs of any design changes can be amortized over the number of bunk beds produced after the design change is made. Thus, any design costs would be nominal.

(3) *Lower bunk end structures*. The Commission is aware of a death, involving entrapment in the end structures of the lower bunk, occurring in a scenario not currently addressed by the voluntary standard. This death would be

addressed by extending the upper limit of the voluntary standard's lower bunk end structures entrapment provisions from 9 inches above the lower bunk's sleeping surface to the bottom of the upper bunk. The Commission expects the costs of this requirement to be design-related only, and small. Indeed, for some bunk beds, material costs may decrease since less material may be required to comply with these requirements than are currently being used. Again, the design costs for this modification to the end structures can be amortized over the subsequent production run of the bed.

(4) *Effect on market.* The small additional costs from any wall guardrail and end structure modifications are not expected to affect the market for bunk beds, either alone or added to the costs of compliance to ASTM's provisions.

(5) *Conclusion.* The Commission has no reason to conclude that any of the standard's requirements will have costs that exceed the requirement's expected benefits. Further, the total effect of the rule is that the benefits of the rule will exceed its costs by about 4-23 times. Accordingly, the Commission concludes that the benefits expected from the rule will bear a reasonable relationship to its costs.

(D) *The rule imposes the least burdensome requirement that prevents or adequately reduces the risk of injury for which the rule is being promulgated.* (1) The Commission

considered relying on the voluntary standard, either alone or combined with a third-party certification program. However, the Commission concludes that a mandatory program will be more effective in reducing these deaths. Accordingly, these alternatives will not prevent or adequately reduce the risk of injury for which the rule is being promulgated.

(2) The Commission also considered a suggestion that bunk beds that conformed to the voluntary standard be so labeled. Consumers could then compare conforming and nonconforming beds at the point of purchase and make their purchase decisions with this safety information in mind. This, however, would not necessarily reduce injuries, because consumers likely do not know there is a voluntary standard and thus would not see any risk in purchasing a bed that was not labeled as conforming to the standard.

4. A new part 1513 is added to Subchapter C to read as follows:

PART 1513—REQUIREMENTS FOR BUNK BEDS

Sec.

Authority: 15 U.S.C. 1261(f)(1)(D), 1261(s), 1262(e)(1), 1262(f)-(i).

§ 1513.1 Scope, application, and effective date.

This part 1513 prescribes requirements for bunk beds to reduce or eliminate the risk that children will die or be injured from being trapped between the upper bunk and the wall or in openings below guardrails or in other structures in the bed. Bunk beds meeting these requirements are

exempted from 16 CFR 1500.18(a)(18). This part applies to all bunk beds intended for use by children that are sold for residential use and manufactured in the United States, or imported, after the effective date of this part. Bunk beds as described above that are not intended for use by children are subject to the requirements in 16 CFR 1213, and not to 16 CFR 1500.18(a)(18). However, the provisions of 16 CFR 1213 are substantively identical to the requirements in this Part 1513.

§ 1513.2 Definitions.

As used in this part 1513:

(a) *Bed.* See *Bunk bed.*

(b) *Bed end structure* means an upright unit at the head and foot of the bed to which the side rails attach.

(c) *Bunk bed* means a bed in which the underside of any foundation is over 30 inches (760 mm) from the floor.

(d) *Foundation* means the base or support on which a mattress rests.

(e) *Guardrail* means a rail or guard on a side of the upper bunk to prevent a sleeping occupant from falling or rolling out.

§ 1513.3 Requirements.

(a) *Guardrails.* (1) Any bunk bed shall provide at least two guardrails, at least one on each side of the bed.

(2) One guardrail shall be continuous between each of the bed's end structures. The other guardrail may terminate before reaching the bed's end structures, providing there is no more than 15 inches (380 mm) between either end of the guardrail and the nearest bed end structure.

(3) For bunk beds designed to have a ladder attached to one side of the bed, the continuous guardrail shall be on the other side of the bed.

(4) Guardrails shall be attached so that they cannot be removed without either intentionally releasing a fastening device or applying forces sequentially in different directions.

(5) The upper edge of the guardrails shall be no less than 5 inches (130 mm) above the top surface of the mattress

when a mattress of the maximum thickness specified by the manufacturer's instructions is on the bed.

(6) With no mattress on the bed, there shall be no openings in the structure between the lower edge of the uppermost member of the guardrail and the underside of the upper bunk's foundation that would permit passage of the wedge block shown in Fig. 1 when tested in accordance with the procedure at § 1513.4(a).

(b) *Bed end structures.* (1) The upper edge of the upper bunk end structures shall be at least 5 inches (130 mm) above the top surface of the mattress for at least 50 percent of the distance between the two posts at the head and foot of the upper bunk when a mattress and foundation of the maximum thickness specified by the manufacturer's instructions is on the bed.

(2) With no mattress on the bed, there shall be no openings in the rigid end structures above the foundation of the upper bunk that will permit the free passage of the wedge block shown in Fig. 1 when tested in accordance with the procedure at § 1513.4(b).

(3) When tested in accordance with § 1513.4(c), there shall be no openings in the end structures between the underside of the foundation of the upper bunk and upper side of the foundation of the lower bunk that will permit the

free passage of the wedge block shown in Fig. 1, unless the openings are also large enough to permit the free passage of a 9-inch (230-mm) diameter rigid sphere.

§ 1513.4 Test methods.

(a) *Guardrails* (see § 1513.3(a)(6)). With no mattress on the bed, place the wedge block shown in Fig. 1, tapered side first, into each opening in the rigid bed structure below the lower edge of the uppermost member of the guardrail and above the underside of the upper bunk's foundation. Orient the block so that it is most likely to pass through the opening (*e.g.*, the major axis of the block parallel to the major axis of the opening) ("most adverse orientation"). Then, gradually apply a 33-lbf (147-N) force in a direction perpendicular to the plane of the large end of the block. Sustain the force for 1 minute.

(b) *Upper bunk end structure* (see § 1513.3(b)(2)). Without a mattress or foundation on the upper bunk, place the wedge block shown in Fig. 1 into any opening, tapered side first, and in the most adverse orientation. Determine if the wedge block can pass freely through the opening.

(c) *Lower bunk end structure* (see § 1513.3(b)(3)). (1) Without a mattress or foundation on the lower bunk, place the wedge block shown in Fig. 1, tapered side first, into each opening in the lower bunk end structure in the most

adverse orientation. Determine whether the wedge block can pass freely through the opening. If the wedge block passes freely through the opening, determine whether a 9-inch (230-mm) diameter rigid sphere can pass freely through the opening.

(2) With the manufacturer's recommended maximum thickness mattress and foundation in place, repeat the test in § 1513.4(c)(1).

§ 1513.5 Marking and labeling.

(a) There shall be a permanent label or marking on each bed stating the name and address (city, state, and zip code) of the manufacturer, distributor, or retailer; the model number; and the month and year of manufacture.

(b) The following warning label shall be permanently attached to the inside of an upper bunk bed end structure in a location that cannot be covered by the bedding but that may be covered by the placement of a pillow.

⚠ WARNING
To help prevent serious or fatal injuries from entrapment or falls: • Never allow a child under 6 years on upper bunk • Use only a mattress that is __ inches long and __ inches wide on upper bunk • Ensure thickness of mattress and foundation combined does not exceed __ inches and that mattress surface is at least 5 inches below upper edge of guardrails DO NOT REMOVE THIS LABEL

§ 1513.6 Instructions

Instructions shall accompany each bunk bed set, and shall include the following information.

(a) *Size of mattress and foundation.* The length and width of the intended mattress and foundation shall be clearly stated, either numerically or in conventional terms such as twin size, twin extra-long, etc. In addition, the maximum thickness of the mattress and foundation required for compliance with § 1513.3(a)(5) and (b)(1) of this part shall be stated.

(b) *Safety warnings.* The instructions shall provide the following safety warnings:

(1) Do not allow children under 6 years of age to use the upper bunk.

(2) Use guardrails on both sides of the upper bunk.

(3) Prohibit horseplay on or under beds.

(4) Prohibit more than one person on upper bunk.

(5) Use ladder for entering or leaving upper bunk.

Dated:

_____

Sayde E. Dunn, Secretary
Consumer Product Safety Commission