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Part III

**Consumer Product
Safety Commission**

16 CFR Parts 1615 and 1616
Flammable Fabrics Act: Children's
Sleepwear (Sizes 0-6x, 7-14) Flammability
Standards; Final Rule

CONSUMER PRODUCT SAFETY COMMISSION**16 CFR Parts 1615 and 1616****Standard for the Flammability of Children's Sleepwear: Sizes 0 Through 6X; Standard for the Flammability of Children's Sleepwear: Sizes 7 Through 14**

AGENCY: Consumer Product Safety Commission.

ACTION: Final amendments.

SUMMARY: The Commission issues final amendments of the flammability standards for children's sleepwear in sizes 0 through 6X and sizes 7 through 14. The amendments issued below revise the definition of "children's sleepwear" in the standard for sizes 0 through 6X to exclude from the requirements of that standard: garments sized for infants nine months of age or younger; and tight-fitting sleepwear garments. The amendments also revise the definition of "children's sleepwear" in the standard for sizes 7 through 14 to exclude tight-fitting sleepwear garments.¹ The amendments define the term "tight-fitting garment" in terms of maximum dimensions at specified locations on garments in sizes for children older than 9 months through children's size 14.

The Commission issues these amendments because it finds that the existing children's sleepwear standards are not limited to those sleepwear garments which present an unreasonable risk of burn deaths and injuries. The Commission concludes that the amendments will afford consumers a wider selection of sleepwear garments for children without diminishing the protection provided by the children's sleepwear standards.

DATES: The amendments will become effective on January 1, 1997.

FOR FURTHER INFORMATION CONTACT: Patricia Fairall, Division of Regulatory Management, Office of Compliance, Consumer Product Safety Commission, Washington, DC 20207; telephone (301) 504-0400, extension 1369.

SUPPLEMENTARY INFORMATION:**A. Provisions of Final Amendments**

By publication of this notice of final rulemaking, the Commission amends the Standard for the Flammability of Children's Sleepwear: Sizes 0 through 6X (16 CFR part 1615) and the Standard

for the Flammability of Children's Sleepwear: Sizes 7 through 14 (16 CFR part 1616). The amendments issued below exempt sleepwear garments sized for children nine months of age and younger and "tight-fitting" sleepwear garments sized for children older than nine months to children's size 14 from all requirements of the children's sleepwear flammability standards. The term "tight-fitting garment" is defined by specifying maximum dimensions for the chest, waist, seat, upper arm, thigh, wrist, and ankle of the garment for each size from 9-12 months through children's size 14.

The amendments issued below are similar to proposed amendments published in the Federal Register of October 25, 1994 (59 FR 53616). The final amendments differ from the proposal by:

- Increasing the size of infant garments exempted from the current standard for sizes 0 through 6X;
- Changing some of the maximum dimensions specified for tight-fitting garments in children's sizes 6X through 14; and
- Eliminating the requirement for a permanent label on tight-fitting sleepwear garments to advise the purchaser that those garments are not flame-resistant.

The differences between the proposed and final amendment are discussed in detail under the heading G. Comments on the Proposed Amendments.

The amendments issued below become effective on January 1, 1997. The Commission's finding that this effective date is in the public interest and the reasons for that finding are set forth under the heading H. Effective Date. Elsewhere in this issue of the Federal Register, the Commission has published a notice to continue through March 9, 1998 a stay of enforcement for close-fitting garments which are labeled and promoted as underwear.

B. Background

The Flammable Fabrics Act (FFA) (15 U.S.C. 1191 *et seq.*) authorizes the issuance of flammability standards for products of wearing apparel made from fabric to protect the public from unreasonable risks of the occurrence of fire leading to death, injury, or significant property damage.

In 1971, the Secretary of Commerce issued a flammability standard for children's sleepwear in sizes 0 through 6X under the authority of section 4 of the FFA (15 U.S.C. 1193). The standard was issued to protect young children from death and serious burn injuries which had been associated with ignition of sleepwear garments, such as

nightgowns and pajamas, by small open-flame sources. The standard for sleepwear in sizes 0 through 6X became effective in 1972 and is now codified at 16 CFR part 1615.

In 1973, authority to issue flammability standards under provisions of the FFA was transferred from the Department of Commerce to the Consumer Product Safety Commission by section 30(b) of the Consumer Product Safety Act (CPSA) (15 U.S.C. 2079(b)). In 1974, the Commission issued a flammability standard for children's sleepwear in sizes 7 through 14. That standard became effective in 1975 and is now codified at 16 CFR part 1616.

The safety requirements of the two standards are nearly identical. They prescribe a test which requires that specimens of fabrics, seams, and trim of children's sleepwear garments must self-extinguish after exposure to a small open flame. Both standards require manufacturers of children's sleepwear subject to their provisions to test prototypes of sleepwear garments with acceptable results before beginning production. Both standards also require manufacturers to sample and test garments from regular production. Failure to comply with the sampling and testing requirements of the standards is a violation of section 3 of the FFA (15 U.S.C. 1192). The standards do not require or prohibit the use of any particular type of fabric or garment design as long as the manufacturer successfully completes the prescribed prototype and production testing.

C. Garments Subject to the Sleepwear Standards

Both standards define the term "children's sleepwear" to mean "any product of wearing apparel" in the sizes covered by the standard "such as nightgowns, pajamas, or similar or related items, such as robes, intended to be worn primarily for sleeping or activities related to sleeping." As originally issued and as amended below, both standards exclude diapers and underwear from their coverage. See 16 CFR 1615.1(a) and 1616.2(a).

Under this definition, the coverage of the sleepwear standards is not limited to children's pajamas, nightgowns, and robes, but also includes other garments "intended primarily for sleeping or activities related to sleeping." 16 CFR 1615.1(a), 1616.2(a) During the time that the standards have been in effect, the Commission staff has responded to a large number of inquiries from manufacturers and importers of children's garments about whether particular products are "children's

¹ The Commission voted 2-1 to issue these amendments of the children's sleepwear flammability standards, Chairman Ann Brown dissenting.

sleepwear" subject to the standards; or "underwear," which is specifically excluded from the standards; or "daywear," "playwear," or other categories of non-sleepwear garments, each of which is outside the scope of the standards.

To provide guidance to the children's garment industry on the scope of the sleepwear standards, in 1984 the Commission issued policy statements which discuss the factors the Commission will consider when determining whether a garment is intended to be worn primarily for sleeping or related activities.⁽¹⁾² These policy statements are codified at 16 CFR 1615.64 and 1616.65. Additionally, the staff developed a pamphlet describing and illustrating various styles of sleepwear and non-sleepwear garments. This pamphlet was revised from time to time, most recently in 1989.⁽²⁾

During the past several years, many consumers have expressed a desire to obtain children's garments made from 100 percent untreated cotton fabric for use as sleepwear. Although the standards do not prohibit any specific type of fabric in the production of children's sleepwear, 100 per cent cotton fabric cannot pass the flammability tests in the standards unless treated with a flame retardant. The Commission also received information indicating that many parents were dressing their children in underwear, large T-shirts, or other garments made of 100 percent untreated cotton rather than traditional sleepwear manufactured to comply with the sleepwear flammability standards.

These actions by manufacturers and consumers resulted in an increasing number of children sleeping in garments which did not comply with the children's sleepwear standards. In view of this trend, the Commission decided in 1991 to re-examine the scope of the children's sleepwear standards and to consider amending the definitions of the term "children's sleepwear" in the two standards. The Commission began this rulemaking proceeding in 1993.

D. Statutory Provisions

Section 4 of the FFA (15 U.S.C. 1193) authorizes the Commission to issue or amend a flammability standard for a product of wearing apparel if the Commission finds that a new or

amended standard is needed to protect the public against the unreasonable risk of the occurrence of fire leading to death, injury, or significant property damage.

Section 4(g) of the FFA (15 U.S.C. 1193(g)) requires publication in the Federal Register of an advance notice of proposed rulemaking (ANPR) to begin a proceeding for the issuance or amendment of a flammability standard. The ANPR must describe the product and the risk of injury under consideration; summarize the regulatory alternatives being considered; provide information about existing standards which may be relevant; invite interested parties to submit an existing standard to the Commission for publication as the proposed standard or a statement of intention to develop or modify a voluntary standard to address the risk of injury under consideration; and solicit written comments on the risk of injury and regulatory alternatives under consideration.

If the Commission decides to continue the proceeding after consideration of comments and submissions received in response to the ANPR, section 4(i) of the FFA (15 U.S.C. 1193(i)) requires publication in the Federal Register of a notice of proposed rulemaking (NPR). The NPR must set forth the text of the proposed standard or amendment and a preliminary regulatory analysis containing a discussion of the anticipated benefits and costs of the proposed rule and other regulatory alternatives considered by the Commission. Section 4(d) of the FFA (15 U.S.C. 1193(d)) specifies that the NPR must provide interested persons the opportunity to submit written comments and to request a public hearing for oral presentation of data and opinions concerning the proposal.

To issue a final standard or amendment, section 4(j) of the FFA (15 U.S.C. 1193(j)) requires the Commission to publish a notice of final rulemaking setting forth the text of the final rule and the Commission's final regulatory analysis of costs, benefits, and regulatory alternatives. Additionally, section 4(b) of the FFA (15 U.S.C. 1193(b)) requires the notice of final rulemaking to contain findings that the standard or amendment is needed to protect the public from the unreasonable risk of death, injury, or significant property damage from fires associated with the product under consideration; is reasonable, technologically practicable, and appropriate; and is limited to those fabrics or products which have been determined to present an unreasonable

risk of death, injury, or significant property damage.

E. Publication of ANPR

The Commission began this proceeding by publication of an ANPR in the Federal Register of January 13, 1993 (58 FR 4111).⁽⁴⁾ The ANPR identified the products under consideration as children's sleepwear garments in sizes 0 through 14, and the risk of injury as death or personal injury from fires resulting from ignition of children's sleepwear by small open-flame sources.

The ANPR also described the regulatory alternatives being considered by the Commission. Briefly summarized, the alternatives were:

(1) Amend the children's sleepwear standards to exempt tight-fitting sleepwear garments and sleepwear garments in infant sizes. Children's sleepwear garments exempted from the requirements of the sleepwear standard would be subject to the provisions of the Standard for the Flammability of Clothing Textiles (16 CFR Part 1610). That standard prohibits the manufacture, importation, or sale of garments which are "dangerously flammable because of rapid and intense burning," but does not require garments to self-extinguish when exposed to a small open-flame ignition source.

(2) Issue an enforcement policy statement to announce that the Commission will not apply the requirements of the children's sleepwear standards to tight-fitting sleepwear garments and garments in infant sizes if those garments met the requirements of the clothing textiles flammability standard.

The ANPR also contained information about other flammability standards for children's sleepwear; solicited information about relevant voluntary standards and statements of intention to develop or modify a voluntary standard; and invited interested persons to submit written comments on the ANPR.

On the same date the Commission published the ANPR, the Commission announced that it would not enforce the children's sleepwear standards in cases involving garments currently being used as sleepwear if those garments are skin-tight or nearly skin-tight, relatively free of ornamentation, made from fabrics such as rib knit, interlock knit, or waffle knit, and labeled as "underwear." 58 FR 4078(5)

In response to the ANPR, the Commission received more than 2,100 written comments from individuals, firms, and organizations. (More than a third of the comments were identical form letters with space for the

²Numbers in parentheses identify reference documents in the List of Relevant Documents at the end of this notice. Requests for inspection of any of these documents should be made at the Commission's Public Reading Room, 4330 East-West Highway, room 419, Bethesda Maryland 20814, or by calling the Office of the Secretary at (301) 504-0800.

commenter's name.) Comments were received from all 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and from United States citizens living abroad. (3), (6), (7) Almost all of these comments favored modification of the standards to exempt some or all children's sleepwear garments from their requirements.

In addition to the information provided by commenters, the Commission also considered information developed or obtained by the Commission staff. That information included injury data (10); information about flammability characteristics of various fabrics and garments (8), (11); and a review of children's sleepwear flammability standards issued by Australia, Canada, New Zealand and the United Kingdom. (9), (11)

From its review of burn injury data, the Commission estimates that on average, about 1,150 children younger than 15 years of age were treated each year in hospital emergency rooms for burn injuries associated with clothing during the period from 1980 through 1993. Of that total, the Commission estimates that each year, about 90 burn injuries to children were associated with sleepwear, about 860 were associated with day wear, and about 200 were associated with other types of clothing or unspecified types of clothing. (10)

On average, each year about four children younger than fifteen years of age died from fires associated with clothing of all types. (10)

Available information also shows that most thermal burn injuries associated with sleepwear involved females, whereas most burn injuries associated with day wear involved males. Thermal burn injuries from nightwear were usually associated with nightgowns or pajamas that probably were not tight-fitting. (10)

In 1978, the Commission staff reviewed information about deaths and injuries associated with sleepwear to children younger than one year of age. Ten cases involved injuries associated with sleepwear. However, nine of these cases involved whole-house conflagrations, and the other involved a home-made garment. (11) Thus, none of these cases involved risks of injury which the sleepwear standards were intended to address.

F. Proposed Amendments

After consideration of comments received in response to the ANPR, information compiled by the staff, and information presented at an oral briefing by the staff, the Commission decided to

propose amending the children's sleepwear standards.

The Commission published a notice to propose amending the children's sleepwear standards by exempting infant garments and tight-fitting garments from their requirements on October 25, 1994. (59 FR 53616) (20)

Section 4 of the FFA (15 U.S.C. 1193) authorizes the agency to issue or amend mandatory requirements for the flammability of wearing apparel only when such requirements are "needed to adequately protect the public against unreasonable risk of the occurrence of fire leading to death, injury, or significant property damage." (Emphasis added.) Section 4 of the FFA also requires that in order to issue or amend a standard, the Commission must find, among other things, that the standard or amendment is "limited" to include only those garments which have been determined to present an "unreasonable risk" of burn deaths or injuries, or significant property damage. Consequently, the Commission concluded that if the children's sleepwear standards currently apply to garments which do not present an unreasonable risk of fire leading to death, injury, or significant property damage, the scope of the standards could be narrowed to remove those garments from the coverage of the standards.

That notice proposed to amend the children's sleepwear flammability standards by exempting:

- (1) Garments intended for children six months of age and younger from the standard for sizes 0 through 6X; and
- (2) "Tight-fitting" sleepwear garments from the standard for sizes 0 through 6X and the standard for sizes 7 through 14.

The proposed exemption for infant garments was stated in terms of maximum dimensions for the chest and length of the garment. The maximum dimensions specified were selected by considering body sizes of children approximately six months old, as set forth in ASTM standard D 4910-89, "Standard Tables of Body Measurements for Infants, Ages 0 to 18 months," published by ASTM (formerly the American Society for Testing and Materials). (12)

The proposed amendments also required that an exempted infant garment must be labeled to indicate that the garment is intended for use by a child six months of age or younger.

In addition, the proposed amendments stated that garments in sizes for infants six months of age or younger must meet the applicable requirements of the flammability standards for clothing textiles and vinyl

plastic film (16 CFR parts 1610 and 1611).

The proposed amendments defined the term "tight-fitting garment" by specifying maximum dimensions for the following parts of the garment: Chest, waist, seat, upper arm, thigh, wrist, and ankle. The proposed amendments also required that an exempted tight-fitting garment must be labeled to indicate its size. The maximum dimensions specified by the proposed amendments for tight-fitting garments in sizes for children six to 24 months old were selected by considering body sizes of children approximately six months old set forth in a proposed revision of ASTM standard D 4910. (12) The proposed maximum dimensions for tight-fitting garments in sizes 2 through 6X were based on dimensions specified in a draft ASTM standard tentatively designated "Standard Table of Body Measurements for Pre-School Children Sizes 2-6X/7." (12) Maximum dimensions specified by the proposed amendments for tight-fitting garments in sizes 7 through 14 were based on a report of an anthropometric study of children ranging in age from infancy to the age of 18 years, conducted in 1977 by the University of Michigan. (12)

To be eligible for the exemption from the requirements of the children's sleepwear standards, the proposal specified that a tight-fitting garment be labeled to indicate its size. The proposed amendments also required that when offered for sale to consumers, exempted garments in sizes for 6-to-9 months and larger must be clearly and conspicuously labeled with a statement to advise consumers that the garment is not flame-resistant and should be tight-fitting for the safety of the child.

Finally, the proposed amendments required that sleepwear garments exempted from the flammability requirements as "tight-fitting" garments must comply with applicable provisions of the flammability standards for clothing textiles and vinyl plastic film (16 CFR parts 1610 and 1611).

In a separate notice also published on October 25, 1994 (59 FR 53584), the Commission extended until further notice the stay of enforcement of the children's sleepwear standards published in 1993 for cases involving skin-tight or nearly skin-tight garments similar in design and manufacture to underwear, provided those garments were labeled and marketed as underwear. (21)

G. Comments on the Proposed Amendments

In response to the proposal to amend the sleepwear standards, the

Commission received 39 written comments. Some commenters submitted more than one comment. (22)-(61) Commenters included individual consumers, students, a physician, a retired Federal employee, manufacturers and importers of children's sleepwear and other children's garments, an association of manufacturers of children's sleepwear, the American Burn Association, the Coalition for American Trauma Care, Fire Prevention Canada, the International Association of Fire Chiefs, the National Cotton Council of America, and the Learn Not to Burn Foundation of the National Fire Protection Association.

Additionally, on April 25, 1995, members of the Commission staff conducted a public meeting with manufacturers and importers of children's sleepwear and other children's garments, consumers, and other interested persons to discuss the proposed amendments. (81)

The following is a summary of the principal issues raised by the written comments and at the public meeting, and the Commission's resolution of those issues.

1. Revocation of the Standards

A comment from one manufacturer of children's garments expresses the view that available injury information does not establish that any children's sleepwear garments present an unreasonable risk of burn deaths or injuries to children. This comment urges the Commission to revoke the standards in their entirety. (25)

When the Department of Commerce issued the flammability standard for sizes 0 through 6X, it considered injury data collected by the National Bureau of Standards (now the National Institute of Standards and Technology) through the Flammable Fabrics Accident Case and Testing System (FFACTS). From 1967 through January 1973, FFACTS obtained information about 434 cases involving burn injuries associated with sleepwear, 101 of which involved children younger than six years of age. Although FFACTS incidents do not constitute a probability sample, they document instances in which children were injured in fires involving sleepwear before issuance of the standard for sizes 0 through 6X. (70)

Unlike FFACTS, the National Electronic Injury Surveillance System (NEISS) gathers information about injuries by using a probability sample. For that reason, NEISS data can be reliably projected into national estimates of injuries associated with products. From burn injuries to children associated with children's sleepwear during the years 1980 through 1994

reported by NEISS, the Commission estimates that during that time period, on average, about 90 children younger than 15 years of age were treated in hospital emergency rooms each year for burns associated with children's sleepwear. (70)

The estimated number of burn injuries associated with children's sleepwear in the years following issuance of the sleepwear standards has been relatively low. This indicates that the sleepwear standards have been relatively successful. Therefore, the Commission does not believe that available injury information supports revocation of the children's sleepwear standards in their entirety.

A comment from one consumer questions whether use of children's sleepwear manufactured from man-made fabrics to comply with the sleepwear standards may increase the risk of sudden-infant-death syndrome (SIDS). (22) The Commission has reviewed medical publications concerning SIDS and has found no references which implicate a specific type of fabric or clothing as a contributing factor to SIDS. (73)

2. Exemption for Infant Garments

The proposed amendments contained provisions to exempt garments for infants six months of age and younger from the requirements of the sleepwear standard for sizes 0 through 6X. The proposed amendments limited the exemption for infant garments to those not exceeding specified dimensions for the chest and overall length of the garment. Those dimensions were selected using information about the body size of children approximately six months old.

Before proposing that exemption, the Commission reviewed information about burn deaths and injuries to children one year of age and younger associated with sleepwear. That information included a study completed in 1978 of 66 burn injuries to children younger than one year old associated with clothing. In ten cases, the clothing involved was specifically identified as sleepwear. Nine of those cases involved whole-house fires; the other involved a home-made garment. The Commission concluded that none of these cases involved risks of injury which the sleepwear standard was intended to address. (11)

The Commission also considered information about children's physical and mental development. That information shows that most children are not capable of moving themselves until they are about seven months old. For that reason, children six months of

age and younger are not likely to come within range of small open-flame ignition sources when an adult is not present. (12)

A comment from the Children's Sleepwear Coalition (a group of children's sleepwear manufacturers and suppliers) objects to the proposal to exempt sleepwear garments for infants six months of age and younger. This comment states that infants are unable to defend themselves from risks of burn injury, and could be exposed to ignition sources by adults. Such exposure could occur if adults smoke in their presence, or place them near a kitchen range or other open flame source. (30) Comments from two individual manufacturers of children's sleepwear object to the proposed exemption for similar reasons. (45), (54)

Comments from two manufacturers of children's sleepwear, an importer of children's garments, and the National Cotton Council urge the Commission to expand the scope of the exemption to include garments for children one year of age and younger. (25), (28), (33), (47) In support of this position, the comments cite the absence of injuries associated with sleepwear to children younger than one year of age.

Comments from two manufacturers and one importer of children's garments state that the proposed amendment to exempt infant sleepwear garments was not consistent with industry practices for the sizing of infant clothing. (23), (35), (53) Two of these comments state that the maximum dimensions based on body measurements of children six months of age would have the effect of exempting some, but not all, infant garments. Garments in sizes 0 to three months (or infants "small" size) and three to six months (or infants "medium" size) would be exempted by the proposal, but not garments in sizes six to nine months (or infants "large" size). These comments recommend that the exemption apply to garments intended for infants nine months of age and younger, thereby exempting all sleepwear garments in infant sizes. (35), (53)

A comment from one manufacturer of children's garments observed that infants grow rapidly. This comment states that a garment having the maximum dimensions for exemption as an "infant garment" in the proposed amendment would fit a six-month-old child for only a short period of time. This comment states that most parents purchase children's garments with the expectation that their children will be able to wear them for a reasonable period of time. (23)

At the Commission's public meeting on April 25, 1995, several manufacturers of children's garments stated that parents typically buy garments one size larger than the age of their children.(81)

After consideration of all of these comments, the Commission concludes that the proposed exemption of "infant garments" should be included in the final amendments, with some modification. The amendment of the standard for sizes 0 through 6X issued below defines the term "infant garment" as one which is "sized for a child nine months of age or younger."

The Commission proposed to exempt garments for children six-months of age and younger because information about child development indicates that until they reach the age of seven months, most infants are not capable of moving by themselves.(12) Consequently, infants six months of age and younger are at minimal risk of exposing their clothing to an ignition source. And, available injury information reveals an absence of burn injuries associated with sleepwear to children younger than one year of age which might have been prevented or reduced by the sleepwear standard.(10), (11)

The Commission recognizes that many parents and other adults purchase infant garments one or two sizes larger than the age of the intended wearer, due in part to the rapid rate at which infants grow. By revising the definition of "infant garment" to include garments sized for children nine months of age and younger, the amendment issued below exempts garments in sizes frequently purchased for children approximately six months of age and younger. Exemption of garments sized for infants nine months of age and younger also makes allowance for those infants who are slightly larger than the average six-month old, and assures that a garment purchased for a six-month old will fit the infant for a reasonable length of time. Additionally, this modification of the proposed amendment makes the size of exempted "infant garments" more compatible with the range of sizes used by manufacturers of infant garments.

The amendments issued below specify that the maximum length for a one-piece infant garment shall not exceed 64.8 centimeters (25.75 inches). The maximum dimension for the length of either piece of a two-piece infant garment is 40 centimeters (15.75 inches). These dimensions were selected by considering body sizes of children approximately nine months old set forth in ASTM standard D 4910-95 "Standard Tables of Body

Measurements for Infants, Sizes 0 to 24 months," published by ASTM (formerly the American Society for Testing and Materials). No maximum dimension is specified for the chest of an infant garment exempted by the final amendments because the safety of infant garments is not dependent on a tight fit.

Exempted garments must comply with the flammability standards for clothing textiles and vinyl plastic film (16 CFR parts 1610 and 1611), and bear a label stating the size of the garment in terms of months of age. If the label is not visible when the garment is offered for sale, the size of the garment, in months, must appear legibly on the package.

3. Exemption for Tight-Fitting Garments

Comments from the National Cotton Council (33), (40), (48), five firms which manufacture or import children's sleepwear or other children's garments (28), (31), (34), (35), (42), (53), and a student research group (29) generally support issuance of final amendments to exempt tight-fitting children's sleepwear garments from the requirements of the sleepwear flammability standards. (Some of these comments recommend changes to specific provisions of the proposal, which are discussed below.)

Comments supporting an exemption for tight-fitting garments made from fabrics which are not flame-resistant state that those garments provide protection to children from unreasonable risks of burn injuries for the following reasons:

- (1) Incident data do not show burn injuries associated with tight-fitting sleepwear;
- (2) If exposed to an ignition source, tight-fitting garments are not easily ignited because the body absorbs some of the heat from the ignition source;
- (3) If these garments are ignited, the wearer becomes aware of ignition almost immediately; and
- (4) If ignited, these garments burn slowly because oxygen to support combustion is available on only one side of the garment.

Comments supporting issuance of final amendments for tight-fitting garments also observe that flammability standards for children's sleepwear in effect in Canada, Australia, and New Zealand exempt tight-fitting pajamas.(33), (40), (48)

In addition, a study cited in the proposal shows that no burn deaths associated with children's sleepwear have been reported in Canada since 1987.(33), (63)

Comments from the Children's Sleepwear Coalition (30), (58), five individual manufacturers of children's sleepwear (45), (46), (54)-(56), (59), a

student research group (27), the Learn Not to Burn Foundation of the National Fire Protection Association (32), (78), the International Association of Fire Fighters (36), Fire Prevention Canada (37), and the Coalition for American Trauma Care (60) assert that the current low rate of children's deaths associated with ignition of clothing is evidence that the children's sleepwear standards have been effective. These comments express concern that exempting tight-fitting sleepwear garments and thereby allowing them to be made from fabrics which are not flame-retardant will expose children to an increased risk of burn deaths and injuries.

Before proposing the amendments, the Commission considered available data which show a measurable reduction in burn deaths associated with all types of clothing, including children's sleepwear, during the past 20 years. (10), (11). Additionally, information about burn injuries associated with all types of children's clothing from 1980 through 1994 shows that children's sleepwear has been associated with a relatively small proportion of those injuries. From its evaluation of this injury information, the Commission concludes that the children's sleepwear standards have contributed to the relatively low level of reported burn injuries associated with sleepwear. However, existing injury information does not support the assertion that amendment of the standards to exempt tight-fitting garments made from fabrics which do not pass the flammability test in the children's sleepwear standards will expose children to a greater risk of burn injuries.

Flammability standards for children's sleepwear issued by Canada and three other countries exempt tight-fitting garments. In 1993, the government of Canada advised the Commission that a proposed five-year study of burn injuries to assess the effectiveness of the Canadian sleepwear standard was discontinued before the end of the five-year period because of a lack of reported burn cases.(63)

When the Commission began this proceeding in 1993, it also announced that it would not enforce the children's sleepwear standards in cases involving garments which are skin-tight or nearly skin-tight and are similar in fabric and design to underwear.(5) That stay was continued at the time the Commission published the proposed amendments of the standards.(21) The garments covered by the stay of enforcement have somewhat larger dimensions than the "tight-fitting" garments defined in the proposed amendments.

On the basis of injuries reported to the National Electronic Injury Surveillance System (NEISS), the Commission estimates that about 2,520 children were treated in hospital emergency rooms for burn injuries associated with clothing during the years 1993 and 1994. During the years 1991 and 1992, the Commission estimates that approximately 2,760 children were treated in hospital emergency rooms for burn injuries associated with clothing.(62) Thus, burn injuries associated with the general category of children's clothing have not increased since the Commission issued the stay of enforcement.

During the years 1993 and 1994, the Commission received no reports of any burn injury to a child younger than 15 years of age associated with a garment which was identified as one covered by the stay of enforcement. (62)

Additionally, a Canadian study of 174 burn injuries cases associated with clothing involving children nine years of age or younger found that closeness of fit and the presence or absence of an adult at the time of injury were significantly associated with the severity of the burn injury. Fiber content was not included as a variable in this study. Burns tended to be more severe in cases associated with loose-fitting clothing and the absence of an adult.(11)

Accordingly, the Commission concludes that amending the standards to exempt tight-fitting sleepwear garments made from fabrics which are not flame-resistant will not create an unreasonable risk of burn injuries to children.(8), (10), (11), (62), (65)

4. Definition of "Tight-Fitting Garment"

The proposed amendments defined the term "tight-fitting garment" as one which did not exceed specified dimensions in the chest, seat, upper arm, thigh, wrist, and ankle for each size ranging from 6-to-9 months through children's size 14.

A comment from one manufacturer of children's garments observes that the maximum dimensions specified for size 6 in the proposal were larger than the maximum dimensions specified for size 7.(28) The Commission agrees that the maximum dimensions for size 7 should be larger than the maximum dimensions for size 6. In the amendments issued below, maximum dimensions increase continuously from the smallest to the largest sizes of garments.

Other comments express the view that the maximum dimensions specified in the proposal for all sizes are too small. One manufacturer states that the amendments should exempt garments which fit "reasonably close to the

body," such as children's polo pajamas, rather than define the exempted garments by maximum dimensions intended to result in a "skin-tight" fit.(25) An importer suggests that the maximum dimensions specified for chest, seat, and thigh in all sizes should be increased by one or two inches.(35)

Before proposing amendments to exempt tight-fitting garments, the Commission reviewed technical literature indicating that tight-fitting garments are less likely to contact an ignition source, and if ignited to burn less rapidly, than loose-fitting clothing.(8) The Commission also considered burn injury data indicating that injuries associated with close-fitting garments are generally less severe than those associated with loose-fitting garments.(11)

Research on the flammability of wearing apparel indicates that fit and fiber are both important factors affecting a garment's flammability. The existing provisions of the children's sleepwear standards address the risk of burn injury by specifying a test for flame-resistance. Garments made from fabrics which pass the flammability test of the children's sleepwear standards do not present an unreasonable risk of injury, regardless of their fit. Similarly, tight-fitting garments exempted by the amendments issued below do not present an unreasonable risk of burn injury, even if they are made from fabrics which do not pass the flammability test of the children's sleepwear standards.

Section 4(b) of the FFA requires that an amendment of a flammability standard must be "stated in objective terms." The term "tight-fitting garment" in the amendments issued below is defined by maximum dimensions at specified locations on the garment for each size. Although these dimensions include adjustments to provide a continuous increase in dimensions from the smallest to largest sizes, the dimensions and points of measurement are substantially similar to those in the notice of proposed rulemaking.

The final amendments also include language in the definition of "tight-fitting garment" to assure that the garment will conform closely to the contour of the body. Provisions of §§ 1615.1(o)(3) through (7) and 1616.2(m)(3) through (7) require that the torso of such garments must fit closely from chest to waist and from waist to seat; that the sleeves must taper from upper arm to wrist; and that the legs must taper from thigh to ankle.

Comments from three manufacturers of children's garments recommend adjustment of the maximum dimensions to allow for fabric shrinkage after

laundering.(25), (28), (31) One of these comments states that if the maximum dimensions do not include an allowance for shrinkage, manufacturers may be required to wash garments before offering them for sale or to use other means to control shrinkage. This comment states that those measures would be "expensive," but does not provide quantitative information about the extent of the additional costs.(28) At the public meeting on April 25, 1995, one importer recommended that the Commission allow an additional 10 per cent to the maximum dimensions for shrinkage.(81)

The maximum dimensions for "tight-fitting garments" in the amendments issued below have not been increased to allow for shrinkage after laundering or to provide a margin of tolerance for manufacturing variation. Garment shrinkage depends on the type of fiber or fiber-blend, method of construction, and finishing process used in the production of the fabric, and the laundering conditions to which the garment is exposed after wearing. Increasing the maximum dimensions to allow for shrinkage could reduce the likelihood that garments will be tight-fitting when worn by children.(72)

Garments made from knit fabrics have the ability to stretch and adapt to the shape of the body. For this reason, they are suitable, although not necessarily required, for production of "tight-fitting garments" exempted from the children's sleepwear standards by the amendments issued below.(72) Additionally, as indicated by one comment, various means are available to manufacturers to control shrinkage, although they may result in higher production costs.(28)

5. Labeling

The proposed amendments included in the definition of "tight-fitting garment" a requirement that when displayed for sale to consumers, the garment must be clearly and conspicuously labeled with the statement: "Garment is not flame-resistant. For child's safety, garment should be tight fitting. Loose-fitting clothing is more likely to contact an ignition source and burn."

Comments from a manufacturer and an importer of children's garments stated that the proposed labeling statement was too lengthy.(25), (35) At the Commission's public meeting on April 25, 1995, manufacturers also expressed the view that the proposed labeling statement was too negative.(81)

A comment from the National Cotton Council states that children's garments currently bear labels stating size, information about the manufacturer,

fiber content, country of origin, and care instructions. This comment states that the addition of the language specified by the proposed amendments would require an unsuitably large label for tight-fitting sleepwear garments.(33)

The same comment suggests that an educational effort to provide safety information to consumers about tight-fitting sleepwear by use of hang tags on garments and signs at retail stores would be a less expensive way to convey safety information about tight-fitting sleepwear garments to consumers. At the public meeting in April 1995 and in a subsequent written comment, the National Cotton Council stated that it would work cooperatively with the Commission to develop an information and education campaign to inform consumers that garment design is an important factor in burn injuries associated with children's sleepwear, and that snug-fitting sleepwear that fits close to the body is a safer choice than loose-fitting garments.(48), (81) Individual manufacturers of children's garments have also indicated their willingness to participate in such an effort.

The amendments issued below do not include the proposed labeling statement for tight-fitting sleepwear garments exempted from the flammability requirements of the children's sleepwear standards. The Commission concludes that a well-designed and broadly disseminated information and education campaign, developed with guidance from the Commission, will be a better means to inform consumers about appropriate selection and use of the tight-fitting garments exempted from the sleepwear standards by the amendments issued below. Such a campaign can help consumers understand why sleepwear garments which are not flame-resistant are being offered for sale and the importance of a tight fit for those garments; that other children's sleepwear garments which are not tight-fitting but are manufactured to comply with the sleepwear standards remain available for purchase; and that loose-fitting garments which are not flame-resistant (such as those made from untreated cotton and cotton blends) should not be used for children's sleepwear.

The Commission expects that point-of-sale materials directed to consumers, including hang-tags on garments, labeling statements on packaging, and store signs, will be an important component of the sleepwear industry's information and education effort. The Commission also expects that another part of this effort will be directed at retailers to emphasize the necessity for

separation of children's nonsleepwear garments such as underwear, daywear, and playwear from sleepwear garments manufactured to comply with the standards and tight-fitting sleepwear garments exempted from those standards by the amendments issued below. Separation of non-sleepwear garments from children's sleepwear is necessary to assure that consumers will not inadvertently purchase a loose-fitting, non-sleepwear garment which is not flame-resistant when shopping for children's sleepwear.

H. Effective Date

Section 4(b) of the FFA (15 U.S.C. 1293(b)) provides that an amendment of a flammability standard shall become effective twelve months after publication of the notice of final rulemaking unless the Commission makes a finding for good cause that an earlier or later effective date is in the public interest and publishes the reasons for that finding.

On May 23, 1996, members of the Commission staff met with representatives of manufacturers, importers, and retailers of children's garments, the National Cotton Council, and other interested parties to discuss technical issues related to the Commission's decision to amend the children's sleepwear standards. At this meeting, representatives of the National Cotton Council and some manufacturers claimed that the amendments should become effective upon publication. They observed that the amendments do not impose any additional requirements on firms, but instead exempt certain garments from the requirements of the children's sleepwear standards that do not present an unreasonable risk of burn injury. These proponents of an immediate effective date asserted that many firms are able to begin marketing the newly exempted sleepwear garments within a short time after issuance of the final amendments.

Representatives of several importers claimed that their businesses would need several months or more after publication of the final amendments to draft specifications, place orders, and receive merchandise from overseas suppliers. Similarly, representatives of some domestic manufacturers stated that they would need time to devise specifications for fabrics, place orders with fabric suppliers, and receive fabrics to be used in production of the sleepwear garments that will be exempted from the requirements of the sleepwear standards.

After considering all information concerning an appropriate effective date, the Commission concludes that the

amendments issued below shall become effective on January 1, 1997. The Commission finds for good cause that a short delay in the effective date, less than the one year specified by the FFA, is in the public interest because it balances the need of some firms for a period of transition in which to make those adjustments necessary to market the sleepwear garments exempted by the amendments with the interest of other firms in marketing those products as soon as possible.

The Commission is aware that many of the firms favoring a delayed effective date are producers or importers of children's sleepwear manufactured to comply with the sleepwear flammability standards. The Commission recognizes the important role which complying sleepwear plays in preventing burn injuries. The regulations governing the flammability of material used to make children's sleepwear garments other than garments covered by these amendments will continue to apply to garments such as robes and nightgowns. However, a delay in the effective date of the amendments issued below beyond January 1, 1997, postpones the availability of tight-fitting cotton and cotton-blend sleepwear garments, and prolongs the period during which consumers seeking untreated cotton sleepwear for their children may purchase alternative garments which pose greater flammability risks. For these reasons, the Commission concludes that an effective date of January 1, 1997, is appropriate to: (1) Provide a transition period for manufacturers and importers of complying sleepwear garments who wish to sell garments permitted by these amendments; and (2) allow all companies to take advantage of the amendments within a reasonable period of time.

The Commission has also extended the stay of enforcement of the sleepwear standards for 18 months for close-fitting garments labeled and promoted as underwear. The Commission has taken this action to minimize costs to manufacturers, distributors, and retailers of children's sleepwear and other garments which may result from adjustments of inventories of both sleepwear and non-sleepwear garments which are subject to the stay of enforcement.(67)

I. Final Regulatory Analysis and Required Findings

Section 4(j) of the FFA (15 U.S.C. 1193(j)) requires that a notice of final rulemaking must include a final regulatory analysis containing:

- A discussion of potential benefits and costs of the final rule, including those which cannot be quantified, and an identification of those persons likely to receive its benefits and bear its costs;
- A description of any alternatives to the final rule which were considered by the Commission together with a summary description of their potential benefits and costs and a brief explanation of why these alternatives were not chosen; and
- A summary of significant issues raised by comments on the preliminary analysis, and the Commission's assessment of those issues.
- Additionally, section 4(j) requires that the final rule must include the Commission's findings that:
 - The benefits expected from the rule bear a reasonable relationship to its costs;
 - It imposes the least burdensome requirement which prevents or adequately reduces the risk of injury for which it is promulgated.

1. Potential Benefits of the Amendments

The amendments issued below will provide consumers a wider choice of children's sleepwear. Specifically, the amendments will allow garments intended for children younger than nine months of age and tight-fitting garments in sizes as large as children's size 14 to be made from untreated cotton and cotton blends, which may not currently be used in the production of children's sleepwear. Although a dollar value cannot be placed on this benefit, the Commission is aware that large numbers of consumers have expressed a desire for children's sleepwear made from cotton rather than the man-made fibers used to produce most sleepwear garments manufactured to comply with the children's sleepwear flammability standards.(6), (29), (34), (42), (66), (67)

The amendments will permit consumers to dress their children for sleeping in the tight-fitting sleepwear garments exempted from the requirements of the standards instead of loose-fitting underwear, playwear, or daywear garments. This, in turn, could reduce the risks of burn injuries and deaths to children because tight-fitting sleepwear garments present a lower fire risk to children than loose garments which are not flame-resistant and do not comply with the children's sleepwear standards. The extent to which such a substitution will occur is not known, and therefore any resulting benefit is not quantifiable.(67)

Manufacturers who elect to produce the garments in infant sizes and tight-fitting garments exempted from the children's sleepwear standards will

benefit from a wider choice of fabrics and the elimination of requirements for sampling, testing, and recordkeeping under the sleepwear standards. The Commission is not able to predict the extent to which manufacturers will elect to produce sleepwear garments exempted by the amendments issued below. For that reason, the benefits to manufacturers from increased choice of fabric and elimination of sampling, testing, and recordkeeping costs cannot be quantified.(67)

2. Potential Costs of the Amendments

Potential costs of the amendments include those related to temporary disruptions in the production process as manufacturers make changes needed to produce garments exempted by the amendments. According to industry sources, those changes could include recalibration of cutting and sewing machines. Some costs may be associated with modification of packaging, but they are expected to be negligible. To minimize disruptions in the production process, the Commission has extended a stay of enforcement for close-fitting garments labeled and promoted for sale as underwear for 18 months to allow manufacturers, distributors, and retailers to dispose of existing inventories of those garments.(67)

Because the Commission cannot predict the extent to which manufacturers will elect to produce the sleepwear garments exempted from the requirements of the children's sleepwear standards, the Commission is unable to quantify the costs to manufacturers which may result.(67) However, the amendments do not require manufacturers to produce the exempted garments. Consequently, the Commission anticipates that only those firms which find it profitable to produce the exempted garments will incur the costs required to begin making them.

The amendments issued below permit the manufacture of certain children's sleepwear garments which will not pass the flammability test in the children's sleepwear standards. Consequently, the potential costs of the amendments include the possibility of increased societal costs resulting from any burn injuries which may be associated with the exempted garments.(67) However, during the three-year period in which the stay of enforcement for close-fitting garments has been in effect, the Commission has received no reports of burn injuries associated with ignition of those garments.(62) Additionally, Canada's experience with sleepwear standards which contain provisions similar to those in the amendments issued below indicates the risk of

increased burn injuries is extremely low.(63) And if consumers dress their children for sleeping in the tight-fitting garments exempted by the amendments instead of loose-fitting T-shirts and other loose-fitting garments which are not flame-resistant and do not comply with the children's sleepwear standards, risks of burn injuries to children are expected to decrease.(67)

3. Alternatives to the Amendments

a. *Make no change to the standards.*
The existing children's sleepwear flammability standards have contributed to the relatively low level of burn injuries to children associated with clothing.(10) Additionally, information is available to demonstrate that a number of burn injuries to children younger than six years of age were associated with sleepwear before the flammability standard for sizes 0 through 6X became effective.(70) If the Commission made no change to the standards, the level of protection against risks of burn injuries to children associated with children's sleepwear would not be altered.

However, if the Commission does not amend the standards, consumers will be unable to purchase children's sleepwear garments made from untreated cotton and cotton blends. Some consumers have expressed a strong desire to purchase such garments for their children to wear while sleeping.(6), (29), (34), (42), (66), (67) In addition, if the Commission does not make changes to the standards, problems related to their enforcement in cases where garments resemble children's sleepwear but are marketed and sold as underwear or playwear are expected to continue.(68) This has been a problem in the past which the changes to the standard are expected to alleviate. And, to satisfy their desire for cotton sleepwear for their children, more people may turn to looser-fitting substitutes which are not flame-resistant and present a greater risk of burn injury.

b. *Continue the stay of enforcement without amending the standards.* On January 13, 1993, the Commission announced that it would not enforce the children's sleepwear standards in cases involving close fitting garments which are similar in design and construction to underwear, relatively free of ornamentation, and are labeled and marketed as underwear. The Commission continued this stay of enforcement when it published the notice of proposed rulemaking on October 25, 1994. During the period that this stay of enforcement has been in effect, the Commission has not observed any burn injuries to children associated

with the garments covered by the stay of enforcement.(62)

However, the tight-fitting garments exempted by the amendments issued below fit more closely than the garments subject to the stay of enforcement. Additionally, those tight-fitting garments can be marketed as children's sleepwear. Consequently, the Commission anticipates the exempted tight-fitting garments would provide better protection against risks of burn injuries than the garments covered by the stay of enforcement.(67)

4. Issues Raised by Comments on the Preliminary Regulatory Analysis

a. *Potential benefits.* A comment from a manufacturer of children's garments asserts that issuance of final amendments to exempt garments in infant sizes and close-fitting garments from the children's sleepwear standards may result in a decrease, rather than an increase in consumers' choice of sleepwear garments. This comment states that retailers devote a limited amount of shelf space to children's sleepwear. If consumers demonstrate a significant preference for cotton sleepwear garments exempted from the requirements of the standards, this comment claims that retailers will stock fewer garments manufactured to comply with the sleepwear standards, and may eventually stop selling those garments.(59)

As stated above, in 1993 the Commission published a stay of enforcement of the sleepwear standards in cases involving skin-tight or nearly skin-tight garments which are similar in design to the tight-fitting garments exempted by the amendments issued below. Available marketing data shows that during 1992, the last year before the stay, sales of traditional children's sleepwear manufactured to comply with the flammability standards were approximately 123.6 million units. During 1994, the second year of the stay of enforcement, sales of traditional children's sleepwear were 123.5 million units.(66)

The Commission concludes that available information about sales of children's sleepwear does not support the assertion that the amendments issued below will result in reduced choice to consumers. Additionally, many parents and children may prefer the comfort of looser-fitting garments made from flame-resistant fabrics over the tight-fitting garments made from cotton or cotton blends. Certain styles of sleepwear, such as nightgowns, robes, and traditional pajamas will still be required to be made from fabrics which pass the tests of the sleepwear

standards. The Commission does not expect consumers to cease purchasing these styles of sleepwear.

b. *Potential costs.* A comment from the American Burn Association states that the Commission's preliminary regulatory analysis underestimated the number of burn injuries which may result from the proposed amendments and consequently the costs to society for treatment of those injuries. This comment observes that in the notice proposing the amendments, the Commission estimated that each year about 1,150 children were treated in hospital emergency rooms for burn injuries associated with clothing of all types. The comment asserts that the true number of emergency room visits may be as high as 4,000 a year, citing a study published in the May-June 1995 issue of the Journal of Burn Care and Rehabilitation.(38)

The Commission observes that the study cited by this comment reviewed cases involving children referred to burn centers for burn injuries of all types, and was not limited to burns associated with ignition of clothing or sleepwear. Accordingly, the estimates of children's burn injuries treated in emergency rooms made in this comment are not comparable to those made by the Commission in the notice of proposed rulemaking.(10) Additionally, the study cited in this comment does not contain any information from which to predict the likely effect of the proposed amendments on the number of children's burn injuries associated with sleepwear.

A comment from The Learn Not to Burn Foundation of the National Fire Protection Association asserts that increased burn injuries to children are likely to result if the Commission issues final amendments of the children's sleepwear standards.(32) That comment sets forth the following rationale: At present, children's cotton garments suitable for use as sleepwear are "sufficiently expensive" that they are purchased primarily by consumers with higher incomes. Higher-income consumers are more likely to have behaviors that offset the increased risk of burn injury presented by sleepwear garments which do not comply with the flammability standards. The proposed amendments will reduce the cost of the exempted sleepwear garments, thereby making them available to lower-income consumers. According to this comment, "low income correlates negatively with all measures of fire risk."

However, recent marketing and injury information does not support the expectations expressed in this comment. As noted in the response to an earlier

comment, since the stay of enforcement of the children's sleepwear standards was issued in 1993, sales of traditional sleepwear manufactured to comply with the standards has remained relatively constant. During the same period of time, sales of children's underwear garments increased from 476 million units in 1992 to 502.4 million units in 1994. One trade publication attributes this gain in sales of children's underwear to the use of some of these garments for sleeping.(66) Underwear and playwear garments subject to the stay of enforcement are sold by high-volume retailers and discounters at lower prices than sleepwear which complies with the children's sleepwear flammability standards.(87) Consequently, these garments have been available to both higher- and lower-income consumers. Again, during the time the stay has been in effect, the Commission has received no reports of burn injuries associated with the garments identified as subject to the stay.(62)

c. *Regulatory alternatives.* A comment from a retired Federal employee states that as an alternative to the exemption of infant garments from the standards, the Commission should consider elimination of requirements for testing seam and trim, but continue to require the fabric used in those garments to meet the flammability requirements of the standard for sizes 0 through 6X. The comment states that such a change would have a negligible effect on safety.(26)

The suggestion in this comment would relieve manufacturers of garments in infant sizes from some, but not all, of the requirements of the standard for sizes 0 through 6X. However, if fabric used in those garments remained subject to the flammability requirements of that standard, untreated cotton and cotton blends could not be used.

As noted above, one of the principal benefits of the amendments issued below is to provide consumers with a greater choice of sleepwear garments by permitting the use of those fabrics for production of certain types of children's sleepwear. The Commission concludes that the alternative suggested by this comment would significantly reduce the potential benefits of the amendments issued below, without a corresponding reduction in their potential costs.(10)

For these reasons, the Commission affirms the conclusion of its preliminary and final regulatory analysis that the amendments are not likely to increase societal costs resulting from burn injuries to children associated with sleepwear.

5. Findings

After considering all information concerning benefits and costs of the amendments, including comments on the preliminary regulatory analysis, the Commission finds the benefits of the amendments issued below bear a reasonable relationship to their costs. Although these benefits are not quantifiable, they include increased choice to consumers in children's sleepwear garments. To the extent that consumers choose the tight-fitting sleepwear garments permitted by the amendments rather than loose-fitting garments which are not flame-resistant, risks of burn injuries to children may be reduced.

The costs of the amendments include some disruption to the children's sleepwear industry, and the possibility of increased societal costs of treating burn injuries associated with the garments exempted by the amendments. By establishing an effective date of January 1, 1997, and extending the stay of enforcement for certain close-fitting children's underwear and playwear, the Commission has minimized costs associated with disruption of the children's sleepwear industry. For the reasons set forth in the discussion of potential costs of the amendments and comments on the preliminary regulatory analysis, the Commission concludes that the potential costs of the amendment, although unquantifiable, are minimal.

The Commission also finds that the amendments issued below impose the least burdensome requirements which adequately reduce the risks of burn injuries to children associated with sleepwear. The Commission has considered the possibilities of withdrawing the proposed amendment, with or without extending the stay of enforcement for certain close-fitting children's underwear and playwear. For the reasons set forth above in the discussion of regulatory alternatives, the Commission finds that none of the alternatives considered will provide the increased choice to consumers at as low a level of risk as the amendments issued below.

J. Other Statutory Findings

Section 4(b) of the FFA (15 U.S.C. 1193(b)) states that each flammability standard or amendment shall be based on findings that the standard or amendment is: Reasonably needed to protect the public against an unreasonable risk of the occurrence of fire leading to death or personal injury, or significant property damage; reasonable, technologically appropriate,

and practicable; and limited to those fabrics, related materials, or products of wearing apparel or interior furnishing which have been determined to present an unreasonable risk of fire leading to death, personal injury, or significant property damage.

After considering all of the information received during this rulemaking proceeding, the Commission finds that to the extent that the Standard for the Flammability of Children's Sleepwear: Sizes 0 Through 6X (16 CFR part 1615) and the Standard for the Flammability of Children's Sleepwear: Sizes 7 Through 14 (16 CFR part 1616) are applicable to garments intended for children nine months of age or younger or to the tight-fitting garments described in the amendments issued below, those standards are not: (i) Reasonably necessary to protect the public from risks of fire leading to death, personal injury, or significant property damage; or (ii) limited to the garments which present that unreasonable risk. After considering the same information, the Commission also finds that the amendments issued below are reasonable, technologically practicable, and appropriate.

K. Future Activities

The Commission will continue to monitor closely and thoroughly information from all available sources concerning burn injuries to children from sleepwear and other garments. If at any time, the Commission detects an increase in burn deaths or injuries to children associated with any of the garments exempted by these amendments, it will take any appropriate action, including initiation of rulemaking to broaden the scope of the children's sleepwear flammability standards.

The Commission will also monitor the information and education campaign undertaken by manufacturers of children's sleepwear and other garments to assure that it accurately and effectively informs consumers about the children's sleepwear flammability standards, garments manufactured to comply with those standards, and the garments exempted from those standards by the amendments issued below.

L. Stay of Enforcement

The stay of enforcement which was issued on January 13, 1993, and continued on October 25, 1994, will end on March 9, 1998. A separate notice published elsewhere in this issue of the Federal Register provides additional details about the stay of enforcement and its termination date.

M. Impact on Small Businesses

In accordance with section 605(b) of the Regulatory Flexibility Act (5 U.S.C. 605(b)), the Commission hereby certifies that the amendments to the children's sleepwear standards issued below will not have a significant economic impact on a substantial number of small entities, including small businesses.

At this time, about 65 firms manufacture or import traditional children's sleepwear garments, i.e., nightgowns, pajamas, and robes.(66) The number of firms in the children's sleepwear industry has not changed substantially in the past several years.(15) About 45 of these firms have fewer than 500 employees and are considered to be small businesses.(83) None of the firms which are small businesses market children's sleepwear exclusively. In addition to traditional children's sleepwear, these firms also manufacture or import other types of garments such as infantwear, children's underwear and playwear, and in some cases, adult underwear and lingerie.(83)

For many years, the market for traditional children's sleepwear has been relatively small but constant. In 1970, the year before promulgation of the first children's sleepwear standard, sales of all new children's sleepwear garments amounted to about 1.4 garments per child younger than 14 years of age.(83) From 1992 through 1994, sales volume has been about 124 million units, about two garments per child each year.(84) This sales information reflects a strong preference for traditional sleepwear by some consumers.

However, if one assumes that most children use several garments each year for sleeping, a logical inference is that children are using many garments other than traditional nightgowns and pajamas for sleeping.

The amendments issued below exempt sleepwear garments sized for children nine months of age and younger and certain tight-fitting sleepwear garments from the requirements of the children's sleepwear standards. The tight-fitting sleepwear garments exempted by the amendments are similar in fit and appearance to long underwear.

A decision to produce or import the exempted garments would entail minimal costs for any current manufacturer or importer of children's sleepwear, regardless of size, for several reasons. First, these firms have an existing customer base for the sleepwear and other garments which they currently distribute. Second, in the children's sleepwear industry, design

and fabric choices are under continuous reassessment; consumer demand and production costs are important considerations when deciding on the design and fabric to be used. Usually, only minor capital costs are involved in making changes to design or material used to produce these garments.(83)

Firms which decide to produce or import garments exempted from the sleepwear standards by the amendments issued below will be able to use untreated fabrics made from cotton and cotton blends which cannot pass the flammability test of the standards. Additionally, they will avoid costs of testing and recordkeeping imposed by the standards.

However, no firm is required to produce or import exempted garments. Firms which decide that demand for the garments exempted by the amendments does not justify the costs of producing or importing them will not be required to make any changes to their current practices.(67)

For these reasons, the Commission concludes that the final amendments will not likely have a significant economic impact on a substantial number of small entities, including small businesses.(83)

N. Environmental Considerations

The amendments issued below fall within the categories of Commission actions described at 16 CFR 1021.5(c) that have little or no potential for affecting the human environment. The amendments are not expected to have a significant effect on production processes or on the types or amounts of materials used for construction or packaging of children's sleepwear. The amendments will not render existing

inventories unsalable, or require destruction of existing goods. The Commission has no information indicating any special circumstances in which these amendments may affect the human environment. For that reason, neither an environmental assessment nor an environmental impact statement is required.(67)

List of Subjects in 16 CFR Parts 1615 and 1616

Clothing, Consumer protection, Flammable materials, Infants and children, Labeling, Records, Textiles, Warranties.

Conclusion

Therefore, pursuant to the authority of section 30(b) of the Consumer Product Safety Act (15 U.S.C. 2079(b)) and section 4 of the Flammable Fabrics Act (15 U.S.C. 1193), the Commission hereby amends title 16 of the Code of Federal Regulations, Chapter II, Subchapter D, parts 1615 and 1616 to read as follows:

PART 1615—STANDARD FOR THE FLAMMABILITY OF CHILDREN'S SLEEPWEAR: SIZES 0 THROUGH 6X

1. The authority for part 1615 continues to read as follows:

Authority: Sec. 4, 67 Stat. 112, as amended, 81 Stat. 569-570; 15 U.S.C. 1193.

2. In § 1615.1, Paragraphs (c) through (m) are redesignated paragraphs (d) through (n), respectively.

3. Section 1615.1 is amended by revising paragraph (a) and adding new paragraphs (c) and (o) to read as follows:

§ 1615.1 Definitions.

(a) *Children's Sleepwear* means any product of wearing apparel up to and

including size 6X, such as nightgowns, pajamas, or similar or related items, such as robes, intended to be worn primarily for sleeping or activities related to sleeping, except:

- (1) Diapers and underwear;
- (2) "Infant garments," as defined by section 1615.1(c), below; and
- (3) "Tight-fitting garments," as defined by section 1615.1(o), below.

* * * * *

(c) *Infant garment* means a garment which:

- (1) Is sized for a child nine months of age or younger;
- (2) If a one-piece garment, does not exceed 64.8 centimeters (25.75 inches) in length; if a two-piece garment, has no piece exceeding 40 centimeters (15.75 inches) in length;
- (3) Complies with all applicable requirements of the Standard for the Flammability Clothing Textiles (16 CFR Part 1610) and the Standard for the Flammability Vinyl Plastic Film (16 CFR part 1611); and
- (4) Bears a label stating the size of the garment, expressed in terms of months of age. For example, "0 to 3 mos." or "9 mos." If the label is not visible to the consumer when the garment is offered for sale at retail, the same information must appear legibly on the package of the garment.

* * * * *

(o) *Tight-fitting garment* means a garment which:

- (1) In each of the sizes listed below does not exceed the maximum dimension specified below for the chest, waist, seat, upper arm, thigh, wrist, or ankle:

	Chest	Waist	Seat	Upper arm	Thigh	Wrist	Ankle
Size 9-12 mos							
Maximum dimension:							
Centimeters	48.3	48.3	48.3	14.3	26.7	10.5	13
(inches)	(19)	(19)	(19)	(5 ⁵ / ₈)	(10 ¹ / ₂)	(4 ¹ / ₈)	(5 ¹ / ₈)
Size 12-18 mos							
Maximum dimension:							
Centimeters	49.5	49.5	50.8	14.9	28.3	10.5	13.1
(inches)	(19 ¹ / ₂)	(19 ¹ / ₂)	(20)	(5 ⁷ / ₈)	(11 ¹ / ₈)	(4 ¹ / ₈)	(5 ¹ / ₈)
Size 18-24 mos							
Maximum dimension:							
Centimeters	52.1	50.8	53.3	15.6	29.5	11	13.6
(inches)	(20 ¹ / ₂)	(20)	(21)	(6 ¹ / ₈)	(11 ⁵ / ₈)	(4 ¹ / ₄)	(5 ³ / ₈)

	Chest	Waist	Seat	Upper arm	Thigh	Wrist	Ankle
Size 2							
Maximum dimension:							
Centimeters	52.1	50.8	53.3	15.6	29.8	11.4	14
(inches)	(20½)	(20)	(21)	(6⅞)	(11¾)	(4½)	(5½)
Size 3							
Maximum dimension:							
Centimeters	53.3	52.1	56	16.2	31.4	11.7	14.9
(inches)	(21)	(20½)	(22)	(6⅜)	(12⅜)	(4⅝)	(5⅞)
Size 4							
Maximum dimension:							
Centimeters	56	53.3	58.4	16.8	33.0	12.1	15.9
(inches)	(22)	(21)	(23)	(6⅝)	(13)	(4¾)	(6¼)
Size 5							
Maximum dimension:							
Centimeters	58.4	54.6	61.0	17.5	34.6	12.4	16.8
(inches)	(23)	(21½)	(24)	(6⅞)	(13⅝)	(4⅞)	(6⅝)
Size 6							
Maximum dimension:							
Centimeters	61.0	55.9	63.5	18.1	36.2	12.7	17.8
(inches)	(24)	(22)	(25)	(7⅞)	(14¼)	(5)	(7)
Size 6X							
Maximum dimension:							
Centimeters	62.9	57.2	65.4	18.7	37.8	13.0	18.7
(inches)	(24¾)	(22½)	(25¾)	(7⅞)	(14⅞)	(5⅞)	(7⅞)

NOTE: Maximum dimensions are calculated by placing the garment on a horizontal, flat surface with the outer surface of the garment exposed, measuring the distances between the points specified below; and multiplying that value by two:

- Chest—measure distance from arm pit to arm pit.
- Waist—on one-piece garment, measure at the narrowest location between arm pits and crotch. On two-piece garment, measure width at the bottom of the upper piece, and the top of the lower piece.
- Seat—on one-piece garment, measure at widest location between waist and crotch. On two-piece garment, take this measurement on lower piece only.
- Upper arm—measure at a line perpendicular to the sleeve. Extending from the outer edge of the sleeve to the arm pit.
- Thigh—measure at a line perpendicular to the leg extending from the outer edge of the leg to the crotch.
- Wrist—measure the width of the end of the sleeve, if intended to extend to the wrist.
- Ankle—measure the width of the end of the leg, if intended to extend to the ankle.

(2) Has no item of fabric, ornamentation or trim, such as lace, appliques, or ribbon, which extends more than 6 millimeters (¼ inch) from the point of attachment to the outer surface of the garment;

(3) Has sleeves which do not exceed the maximum dimension for the upper arm at any point between the upper arm and the wrist, and which diminish in width gradually from the upper arm to the wrist;

(4) Has legs which do not exceed the maximum dimension for the thigh at any point between the thigh and the ankle, and which diminish in width gradually from the thigh to the ankle;

(5) In the case of a one-piece garment, has a width which does not exceed the maximum dimension for the chest at any point between the chest and the

waist and which diminishes gradually from the chest to the waist; and has a width which does not exceed the maximum dimension for the seat at any point between the seat and the waist and which diminishes gradually from the seat to the waist;

(6) In the case of a two-piece garment has an upper piece with a width which does not exceed the maximum dimension for the chest at any point between the chest and the bottom of that piece and which diminishes gradually from the chest to the bottom of that piece; in the case of an upper piece with fastenings, has the lowest fastening within 15 centimeters (6 inches) of the bottom of that piece;

(7) In the case of a two-piece garment, has a lower piece with a width which does not exceed the maximum

dimension for the seat at any point between the seat and the top of the lower piece and which diminishes gradually from the seat to the top of that piece;

(8) Complies with all applicable requirements of the Standard for the Flammability of Clothing Textiles (16 CFR part 1610) and the Standard for the Flammability of Vinyl Plastic Film (16 CFR part 1611); and

(9) Bears a label stating the size of the garment in terms of age in months, or by child's size; for example: "Size 9 to 12 mos." or "Size 2." If the label is not visible to the consumer when the garment is offered for sale at retail, the same information must appear legibly on the package of the garment.

PART 1616—STANDARD FOR THE FLAMMABILITY OF CHILDREN'S SLEEPWEAR: SIZES 7 THROUGH 14

1. The authority for part 1616 continues to read as follows:

Authority: Sec. 4, 67 Stat. 112, as amended, 81 Stat. 569–570; 15 U.S.C. 1193.

2. Section 1616.2 is amended by revising paragraph (a) and adding a new paragraph (m), to read as follows:

§ 1616.2 Definitions.

In addition to the definitions given in section 2 of the Flammable Fabrics Act, as amended (sec. 2, 81 Stat. 586; 15 U.S.C. 1191), the following definitions apply for the purposes of this Standard:

(a) Children's sleepwear means any product of wearing apparel size 7 through 14, such as nightgowns, pajamas, or similar or related items, such as robes, intended to be worn primarily for sleeping or activities related to sleeping, except:

- (1) Diapers and underwear; and
- (2) "Tight-fitting garments" as defined by section 1616.2(m), below.

* * * * *

(m) *Tight-fitting garment* means a garment which:

- (1) in each of the sizes listed below does not exceed the maximum dimension specified below for the chest, waist, seat, upper arm, thigh, wrist, or ankle:

	Chest	Waist	Seat	Upper arm	Thigh	Wrist	Ankle
Size 7 Boys ¹							
Maximum dimension:							
Centimeters	63.5	58.4	66	18.7	37.2	13.0	18.7
(inches)	(25)	(23)	(26)	(7 ³ / ₈)	(14 ⁵ / ₈)	(5 ¹ / ₈)	(7 ³ / ₈)
Size 7 Girls							
Maximum dimension:							
Centimeters	63.5	58.4	67.3	18.7	38.7	13.0	18.7
(inches)	(25)	(23)	(26 ¹ / ₂)	(7 ³ / ₈)	(15 ¹ / ₄)	(5 ¹ / ₈)	(7 ³ / ₈)
Size 8 Boys ¹							
Maximum dimension:							
Centimeters	66	59.7	67.3	19.4	38.4	13.3	19.1
(inches)	(26)	(23 ¹ / ₂)	(26 ¹ / ₂)	(7 ⁵ / ₈)	(15 ⁵ / ₈)	(5 ¹ / ₄)	(7 ¹ / ₂)
Size 8 Girls							
Maximum dimension:							
Centimeters	66	59.7	71.1	19.4	41.3	13.3	19.1
(inches)	(26)	(23 ¹ / ₂)	(28)	(7 ⁵ / ₈)	(16 ¹ / ₄)	(5 ¹ / ₄)	(7 ¹ / ₂)
Size 9 Boys ¹							
Maximum dimension:							
Centimeters	68.6	61.0	69.2	20	39.7	13.7	19.4
(inches)	(27)	(24)	(27 ¹ / ₄)	(7 ⁷ / ₈)	(15 ⁵ / ₈)	(5 ³ / ₈)	(7 ⁵ / ₈)
Size 9 Girls							
Maximum dimension:							
Centimeters	68.6	61.0	73.7	20	42.6	13.7	19.4
(inches)	(27)	(24)	(29)	(7 ⁷ / ₈)	(16 ³ / ₄)	(5 ³ / ₈)	(7 ⁵ / ₈)
Size 10¹ Boys							
Maximum dimension:							
Centimeters	71.1	62.2	71.1	20.6	41.0	14	19.7
(inches)	(28)	(24 ¹ / ₂)	(28)	(8 ¹ / ₈)	(16 ⁵ / ₈)	(5 ¹ / ₂)	(7 ³ / ₄)
Size 10 Girls							
Maximum dimension:							
Centimeters	71.1	62.2	76.2	20.6	43.8	14	19.7
(inches)	(28)	(24 ¹ / ₂)	(30)	(8 ¹ / ₈)	(17 ¹ / ₄)	(5 ¹ / ₂)	(7 ³ / ₄)
Size 11¹ Boys							
Maximum dimension:							
Centimeters	73.7	63.5	73.7	21	42.2	14.3	20
(inches)	(29)	(25)	(29)	(8 ¹ / ₄)	(16 ⁵ / ₈)	(5 ⁵ / ₈)	(7 ⁷ / ₈)

	Chest	Waist	Seat	Upper arm	Thigh	Wrist	Ankle
Size 11 Girls							
Maximum dimension:							
Centimeters	73.7	63.5	78.7	21	45.1	14.3	20
(inches)	(29)	(25)	(31)	(8 ¹ / ₄)	(17 ³ / ₄)	(5 ⁵ / ₈)	(7 ⁷ / ₈)
Size 12 Boys ¹							
Maximum dimension:							
Centimeters	76.2	64.8	76.2	21.6	43.5	14.6	20.3
(inches)	(30)	(25 ¹ / ₂)	(30)	(8 ¹ / ₂)	(17 ¹ / ₈)	(5 ³ / ₄)	(8)
Size 12 Girls							
Maximum dimension:							
Centimeters	76.2	64.8	81.3	21.6	46.7	14.6	20.3
(inches)	(30)	(25 ¹ / ₂)	(32)	(8 ¹ / ₂)	(18 ¹ / ₂)	(5 ³ / ₄)	(8)
Size 13 Boys							
Maximum dimension:							
Centimeters	78.7	66	78.7	22.2	44.8	14.9	20.6
(inches)	(31)	(26)	(31)	(8 ³ / ₄)	(17 ⁵ / ₈)	(5 ⁷ / ₈)	(8 ¹ / ₈)
Size 13 Girls							
Maximum dimension:							
Centimeters	78.7	66	83.8	22.2	47.6	14.9	20.6
(inches)	(31)	(26)	(33)	(8 ³ / ₄)	(18 ³ / ₄)	(5 ⁷ / ₈)	(8 ¹ / ₈)
Size 14 Boys ¹							
Maximum dimension:							
Centimeters	81.3	67.3	81.3	22.9	46	15.2	21
(inches)	(32)	(26 ¹ / ₂)	(32)	(9)	(18 ¹ / ₈)	(6)	(8 ¹ / ₄)
Size 14 Girls							
Maximum dimension:							
Centimeters	81.3	67.3	86.4	22.9	49.5	15.2	21
(inches)	(32)	(26 ¹ / ₂)	(34)	(9)	(19 ¹ / ₂)	(6)	(8 ¹ / ₄)

¹ Garments not explicitly labeled and promoted for wear by girls must not exceed these maximum dimensions.

NOTE: Maximum dimensions are calculated by placing the garment on a horizontal, flat surface, with the outer surface of the garment exposed; measuring the distances at the points specified below; and multiplying that value by two:

Chest—measure distance from arm pit to arm pit.

Waist—on one-piece garment, measure at narrowest location between arm pits and crotch; on two-piece garment, measure width at the bottom of the upper piece, and at the top of the lower piece.

Seat—on one-piece garment, measure at widest location between waist and crotch. On two-piece garment, take this measurement on the lower piece only.

Upper arm—measure at a line perpendicular to the sleeve extending from the outer edge of the sleeve to the arm pit.

Thigh—measure at a line perpendicular to the leg extending from the outer edge of the leg to the crotch.

Wrist—measure the width of the end of the sleeve, if intended to extend to the wrist.

Ankle—measure the width of the end of the leg, if intended to extend to the ankle.

(2) Has no item of fabric, ornamentation or trim, such as lace, appliques, or ribbon, which extends more than 6 millimeters (1/4 inch) from the point of attachment to the outer surface of the garment;

(3) Has sleeves which do not exceed the maximum dimension for the upper arm at any point between the upper arm and the wrist and which diminish in width gradually from the upper arm to the wrist;

(4) Has legs which do not exceed the maximum dimension for the thigh at

any point between the thigh and the ankle, and which diminish gradually in width between the thigh and the ankle;

(5) In the case of a one-piece garment, has a width which does not exceed the maximum dimension for the chest at any point between the chest and the waist and which diminishes gradually from the chest to the waist; and has a width which does not exceed the maximum dimension for the seat at any point between the seat and the waist and which diminishes gradually from the seat to the waist;

(6) In the case of a two-piece garment, has an upper piece with a width which does not exceed the maximum distance for the chest at any point between the chest and the bottom of that piece and which diminishes gradually from the chest to the bottom of that piece; in the case of an upper piece with fastenings, has the lowest fastening within 15 centimeters (6 inches) of the bottom of that piece;

(7) In the case of a two-piece garment, has a lower piece with a width which does not exceed the maximum

dimension for the seat at any point between the seat and the top of the lower piece and which diminishes gradually from the seat to the top of that piece;

(8) Complies with all applicable requirements of the Standard for the Flammability of Clothing Textiles (16 CFR part 1610) and the Standard for the Flammability of Vinyl Plastic Film (16 CFR part 1611); and

(9) Bears a label stating the size of the garment; for example "Size 7." If the label is not visible to the consumer when the garment is offered for sale at retail, the garment size must appear legibly on the package of the garment.

Effective date: These amendments shall become effective on January 1, 1997, and shall be applicable to garments which are introduced into commerce on or after that date.

Dated: August 29, 1996.

Todd A. Stevenson,

Deputy Secretary, Consumer Product Safety Commission.

List of Relevant Documents

1. Federal Register notice "Flammability Standards for Children's Sleepwear; Statements of Enforcement Policy" published by the Consumer Product Safety Commission; 4 pages; March 20, 1984 (49 FR 10249).

2. Supplemental CPSC Staff Guide to the Enforcement Policy Statements of the Flammability Standard for Children's Sleepwear—Garment Diagrams and Assessments, published by the Division of Regulatory Management, Consumer Product Safety Commission; 27 pages; 1989.

3. Memorandum from Terrance R. Karels, ECPA, to the Commission, entitled "Children's Sleepwear Project"; 12 pages; July 19, 1994.

4. Federal Register notice "Standards for the Flammability of Children's Sleepwear: Sizes 0 Through 6X and 7 Through 14; Advance Notice of Proposed Rulemaking," published by the Consumer Product Safety Commission; 4 pages; January 13, 1993 (58 FR 4111).

5. Federal Register notice "Standards for the Flammability of Children's Sleepwear: Sizes 0 Through 6X and 7 Through 14; Stay of Enforcement," published by the Consumer Product Safety Commission; 1 page; January 13, 1993 (58 FR 4078).

6. Tabular summaries of comments and staff responses to comments to the Advance Notice of Proposed Rulemaking; 50 pages; July 19, 1994.

7. "Statement by The Children's Sleepwear Coalition In Response to the Consumer Product Safety Commission's Advance Notice of Proposed Rulemaking"; 10 pages; March 25, 1993.

8. Memorandum from Linda Fansler, ESME, to Terrance R. Karels, ECPA, entitled "Technical Rationale Supporting Tight-Fitting Children's Sleepwear Garments"; 11 pages; March 14, 1994.

9. Memorandum from Linda Fansler, ESME, to Terrance R. Karels, ECPA, entitled

"Recent Conversation Between Staff of Consumer and Corporate Affairs Canada and Commission Staff"; 4 pages; July 17, 1992.

10. Memorandum from Dr. Terry L. Kissinger, EPHA, to Terrance R. Karels, ECPA, entitled "Injury Data Related to the Children's Sleepwear Standards"; 13 pages; February 8, 1994.

11. Memorandum from Dr. Terry L. Kissinger, EPHA, to Terrance R. Karels, ECPA, entitled "Results of Review of Available Literature," and attachments; 21 pages; April 1, 1994.

12. Memorandum from George Sweet, EPHF, to Terrance R. Karels, ECPA, entitled "Human Factors Issues Regarding Sleepwear," and attachment; 8 pages; March 8, 1994.

13. Memorandum from George Sweet, EPHF, to Terrance R. Karels, ECPA, entitled "Garments Intended for Infants"; 4 pages; July 8, 1994.

14. "Preliminary Regulatory and Regulatory Flexibility Analyses for the Proposed Amendments to the Children's Flammability Standards," by Anthony C. Homan, Directorate for Economic Analysis; 7 pages; June, 1994.

15. "Market Sketch—Children's Sleepwear," by Anthony C. Homan, Directorate for Economic Analysis; 14 pages; March, 1992.

16. Memorandum from Eva S. Lehman, HSPS, to Terrance R. Karels, ECPA, entitled "Toxicological Evaluation of Fabrics Used in Children's Sleepwear"; 3 pages; June 7, 1994.

17. Memorandum from Patricia Fairall, CERM, to Terrance Karels, ECPA, entitled "Compliance History—Enforcement of Children's Sleepwear"; 6 pages; April 20, 1994.

18. Memorandum from James F. Hoebel, Acting Director, ESME, to Terrance R. Karels, ECPA, entitled "Amendments to Children's Sleepwear Standards"; 3 pages; July 7, 1994.

19. Memorandum from Dr. Terry L. Kissinger, EPHA, to Terrance R. Karels, ECPA, entitled "Proposed Amendment to Children's Sleepwear Standards"; 7 pages; July 15, 1994.

20. Federal Register notice "Standard for the Flammability of Children's Sleepwear: Sizes 0 Through 6X; Standard for the Flammability of Children's Sleepwear: Sizes 7 Through 14; Proposed amendments" published by the Consumer Product Safety Commission; 11 pages; October 25, 1994 (59 FR 53616).

21. Federal Register notice "Continuation of Stay of Enforcement of Standards for the Flammability of Children's Sleepwear, Sizes 0 Through 6X and 7 Through 14" published by the Consumer Product Safety Commission; 1 page; October 25, 1994 (59 FR 53584).

22. Comment on proposed amendments from Aline Farr; 1 page; September 14, 1994.

23. Comment on proposed amendments from Leonard Schwab, the Schwab Company; 7 pages; November 29, 1994.

24. Comment on proposed amendments from Kay M. Villa, American Textile Manufacturers Institute; 1 page; December 22, 1994.

25. Comment on proposed amendments from Carl Schlosser, Salant Children's Apparel Group; 5 pages; December 28, 1994.

26. Comment on proposed amendments from John F. Krasny; 2 pages; January 4, 1995.

27. Comment on proposed amendments from student research group, Florida International University; 2 pages; January 4, 1995.

28. Comment on proposed amendments from Steven E. Loftin, the William Carter Company; 2 pages; January 5, 1995.

29. Comment on proposed amendments from student research group; 2 pages; January 6, 1995.

30. Comment on proposed amendments from Gerald L. Colliers, the Children's Sleepwear Coalition; 6 pages; January 8, 1995.

31. Comment on proposed amendments from Mary-beth Boughton, Oneita Industries; 2 pages; January 9, 1995.

32. Comment on proposed amendments from James McMullen, Learn Not to Burn Foundation, National Fire Protection Association; 2 pages; January 13, 1995.

33. Comment on proposed amendments from Phillip J. Wakelyn, Ph.D., National Cotton Council of America; 7 pages; January 9, 1995.

34. Comment on proposed amendments from John Wigodsky, Fruit of the Loom; 1 page; January 5, 1995.

35. Comment on proposed amendments from Julie Goldscheider, Impact Imports International, Inc.; 3 pages; January 9, 1995.

36. Comment on proposed amendments from Alfred K. Whitehead, International Association of Fire Fighters; 1 page; July 31, 1995.

37. Comment on proposed amendments from Frank Albert, Fire Prevention Canada; 2 pages; August 1, 1995.

38. Comment on proposed amendments from Andrew M. Munster, M.D., American Burn Association; 2 pages; August 29, 1995.

39. Comment on proposed amendments from Ramsey J. Choucair, M.D., Shriners Hospitals for Crippled Children, Burns Institute; 2 pages; August 30, 1995.

40. Comment on proposed amendments from Phillip J. Wakelyn, Ph.D., National Cotton Council of America; 2 pages; September 8, 1995.

41. Comment on proposed amendments from Anthony R. O'Neill, National Fire Protection Association, with enclosures; 7 pages; October 23, 1995.

42. Comment on proposed amendments from Carl Schlosser, Salant Children's Apparel Group; 1 page; October 10, 1995.

43. Comment on proposed amendments from Mary Jane Murray; 1 page; undated.

44. Comment on proposed amendments from Tim Ackerman, T & G Associates, Inc., with enclosure; 3 pages; October 25, 1995.

45. Comment on proposed amendments from John McCarthy, Kid Duds, with enclosure; 3 pages; October 30, 1995.

46. Comment on proposed amendments from Leigh Ann Schwarzkopf, Kid Duds, with enclosure; 8 pages; January 5, 1996.

47. Comment on proposed amendments from Phillip J. Wakelyn, Ph.D., National Cotton Council of America; 2 pages; October 30, 1995.

48. Comment on proposed Amendments from Phillip J. Wakelyn, Ph.D., National

Cotton Council of America, with enclosures; 5 pages; December 18, 1995.

49. Comment on proposed Amendments from Phillip. J. Wakelyn, Ph.D., National Cotton Council of America, with enclosure; 3 pages; December 21, 1995.

50. Comment on proposed amendments from Leonard S. Bernstein, Candlesticks, Inc.; 2 pages; October 31, 1995.

51. Comment on proposed amendments from Leonard S. Bernstein, Candlesticks, Inc., with enclosure; 3 pages; December 14, 1995.

52. Comment on proposed amendments from Leonard S. Bernstein, Candlesticks, Inc.; 1 page; January 10, 1996.

53. Comment on proposed amendments from Mary-beth Boughton, Oneita Industries; 2 pages; November 6, 1995.

54. Comment on proposed amendments from G. L. Collier, I-C Manufacturing Company, with enclosure; 5 pages; December 30, 1995.

55. Comment on proposed amendments from Hy Grubman, InnerWorld; 1 page; December 28, 1995.

56. Comment on proposed amendments from Jack Brownstein, Waterbury Garment Corporation, with enclosure; 2 pages; January 3, 1996.

57. Comment on proposed amendments from Craig V. Mayer, P.E.; 2 pages; January 5, 1996.

58. Comment on proposed amendments from Gerald L. Collier, Children's Sleepwear Coalition; 5 pages; January 24, 1996.

59. Comment on proposed amendments from Stephen Schnitzer and Marvin Sandberg, PCA Apparel; 5 pages; February 6, 1996.

60. Comment on proposed amendments from The Coalition for American Trauma Care; 2 pages; February 6, 1996.

61. Comment on proposed amendments from Cressie Goff, Sew Sweet Stitches, and Carol Grider, R.N., with enclosures; 3 pages; February 21, 1996.

62. Memorandum from Terry L. Kissinger, Ph.D., EHHA, to Terrance R. Karels, ECPA, entitled "Injury Data Related to the Children's Sleepwear Standards"; 13 pages; July 12, 1995.

63. Letter from Carole LaCombe, Director, Product Safety Canada, to Eric C. Peterson, Executive Director, Consumer Product Safety Commission, concerning Canadian standards for the flammability of children's sleepwear; 3 pages; September 13, 1993.

64. Memorandum from Linda Fansler, ES, concerning telephone conversation between staff of the Consumer Product Safety

Commission and staff of Consumer and Corporate Affairs Canada on June 18, 1992, concerning the Canadian standards for the flammability of children's sleepwear; 3 pages.

65. Memorandum from Linda Fansler, ESME, to Terrance R. Karels, ECPA, entitled "Tight Fitting Children's Sleepwear"; 5 pages; July 14, 1995.

66. Memorandum from Terrance R. Karels, Project Manager, to Warren J. Prunella, Associate Executive Director for Economic Analysis, entitled "Sleepwear Market Update"; 2 pages; October 6, 1995.

67. Final Regulatory Analysis for amendments of the children's sleepwear standards by Terrance R. Karels; 8 pages; July 1995.

68. Memorandum from David Schmeltzer, Assistant Executive Director for Compliance, to Terrance Karels, Project Manager, entitled "Sleepwear Briefing Package"; 4 pages; August 24, 1995.

69. Memorandum from Patricia Fairall, Compliance Officer, to Terrance Karels, Project Manager, entitled "Compliance Discussion of the Proposed Amendments to the Children's Sleepwear Standards"; 2 pages; June 26, 1995.

70. Memorandum from Terry L. Kissinger, Ph.D., EHHA, to Terrance R. Karels, ECPA, entitled "Response to Public Comments Received after Publication of the Notice of Proposed Rulemaking"; 8 pages; July 12, 1995.

71. Memorandum from George Sweet, EPHF, to Terrance R. Karels, ECPA, entitled "Human Factors Responses to Sleepwear NPR Comments"; 7 pages; May 5, 1995.

72. Memorandum from Linda Fansler, ESME, to Terrance R. Karels, ECPA, entitled "Response to Comments"; 3 pages; July 14, 1995.

73. Memorandum from Suad Nakamura, Ph.D., EHPS, to Terrance R. Karels, Project Manager, entitled "Children's Sleepwear—Response to Comments on the Notice of Proposed Rulemaking"; 2 pages; July 19, 1995.

74. Memorandum from Patricia Fairall, Compliance Officer, to Terrance R. Karels, Program Manager, entitled "Response to Comments from Proposed Amendments to the Children's Sleepwear Standards published in the Federal Register on October 25, 1994"; 5 pages; June 26, 1995.

75. Memorandum from Terry L. Kissinger, Ph.D., EHHA, to Terrance R. Karels, ECPA, entitled "Response to Letter from John

Krasny to James Hoebel"; 5 pages; August 3, 1995.

76. Memorandum from George Sweet, ESHA, to Terrance R. Karels, ECPA, entitled "Issues involved in amendment the sleepwear flammability regulation: Sizing and Labeling"; 3 pages; September 20, 1995.

77. Memorandum from Karen G. Krushaar, OIPA, to Terrance R. Karels, ECPA, entitled "Children's Sleepwear Informational Campaign"; 2 pages; July 11, 1995.

78. Position statement of the National Fire Protection Association and the Learn Not to Burn Foundation in Opposition to the Proposed Amendment of the Children's Sleepwear Standards; 5 pages; July 1995.

79. Letter from John F. Krasny to J. F. Hoebel concerning paper by Vickers, Krasny, and Tovey entitled "Some Apparel Fire Hazard Parameters"; 2 pages; July 17, 1995.

80. Memorandum from Linda Fansler, ESME, concerning telephone conversation with John Krasny on September 20, 1995; 2 pages.

81. Log of public meeting conducted on April 25, 1995, concerning proposed amendments of the children's sleepwear flammability standards; 4 pages.

82. Memorandum from James F. Hoebel, Chief Engineer for Fire Hazards, to Terrance R. Karels, Project Manager, entitled "Children's Sleepwear"; 3 pages; October 10, 1995.

83. Memorandum from Warren J. Prunella, Associate Executive Director for Economic Analysis, to file concerning small business effects of proposed amendments to the children's sleepwear flammability standards; 3 pages; February 17, 1995.

84. Memorandum from Warren J. Prunella, Associate Executive Director for Economic Analysis, to Eric A. Rubel, General Counsel, concerning requirements for Congressional review of final amendments to the children's sleepwear standards; 3 pages; undated.

85. Vote sheet to accompany briefing package on children's sleepwear flammability standards; 2 pages; October 11, 1995.

86. Memorandum from Terrance R. Karels, Project Manager, and Ronald L. Medford, Assistant Executive Director for Hazard Identification and Reduction entitled "Questions Regarding Children's Sleepwear Amendments," with attachments; 21 pages; January 30, 1996.

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