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**CONSUMER
PRODUCT SAFETY
COMMISSION**

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**CHILDREN'S SLEEPWEAR,
SIZES 7 THROUGH 14
(FF 5-74)**

**Flammability Standard and Finding of
Possible Need for Amendment**

CONSUMER PRODUCT SAFETY COMMISSION

CHILDREN'S SLEEPWEAR, SIZES 7 THROUGH 14

Standard for the Flammability of Children's Sleepwear, Sizes 7 Through 14 (FF 5-74)

The purpose of this notice is to promulgate the Standard for the Flammability of Children's Sleepwear, sizes 7 through 14 (FF 5-74). The Standard is issued under the Flammable Fabrics Act 15 U.S.C. 1191, et seq.). It provides a test method to determine the flammability of all items of wearing apparel in sizes 7 through 14 intended to be worn primarily for sleeping or activities related to sleeping and for fabric or related material intended or promoted for use in such wearing apparel.

The Standard provides both a fabric sampling plan and a garment sampling plan to be used by all manufacturers of garments, fabric, and related material subject to the Standard. The Standard becomes effective on May 1, 1975. No noncomplying items may be manufactured on or after that date.

The Secretary of Commerce published in the FEDERAL REGISTER on June 15, 1972, a Notice of Finding that Flammability Standard may be Needed and Institution of Proceedings (37 FR 11896). Subsequently, on March 12, 1973, the Secretary of Commerce published in the FEDERAL REGISTER (38 FR 6700) a finding that a standard for the flammability of children's sleepwear in sizes 7 through 14 is needed to protect the public against unreasonable risk of the occurrence of fire leading to death, personal injury, or significant property damage. In that notice, the Secretary of Commerce published a proposed Standard for the Flammability of Children's Sleepwear and invited comment on the proposal.

On May 14, 1973, the functions of the Secretary of Commerce under the Flammable Fabrics Act were transferred to the Consumer Product Safety Commission by section 30(b) of the Consumer Product Safety Act (Pub. L. 92-573, 86 Stat. 1231; 15 U.S.C. 2079(b)). Therefore, the Consumer Product Safety Commission takes this action to promulgate the final Standard.

In response to the proposed Standard more than 95 comments were received from, among others, manufacturers of items subject to the Standard, retailers, distributors, importers, associations of the foregoing, consumers, members of Congress, and members of the National Advisory Committee for the Flammable Fabrics Act.

On September 12, 1973, a meeting was held at the request of the Man-Made Fiber Producers Association to discuss various provisions of the proposed Standard. Additional data and views concerning the proposed Standard were presented to the Commission by members of the National Wool Growers Association and Wool Bureau, Inc. at a public meeting on November 28, 1973. On January 11, 1974, the Commission held a public meeting to discuss the possible

economic effects of adopting the Standard. Some written presentations were made in addition to oral statements.

The principal issues raised by those comments, both written and oral, and the conclusions of the Consumer Product Safety Commission with regard to those comments are as follows:

A. *Scope and application.* 1. A number of commenters suggest that one flammability standard apply to all children's sleepwear in sizes 0 through 14. Some commenters suggest that the Standard for the Flammability of Children's Sleepwear (DOC FF 3-71, issued July 29, 1971 (36 FR 14062), and amended July 21, 1973 (37 FR 14624)), which applies to items in sizes 0 through 6x, should be applied to all sizes of children's sleepwear. Others suggest that the proposed Standard for sizes 7 through 14 apply to all sizes of children's sleepwear.

The principal difference between DOC FF 3-71 and the standard for sizes 7 through 14 is that the standard for the smaller sizes contains an additional test criterion which limits the length of time flaming molten materials or other fragments from any individual test specimen may continue to burn on the base of the test cabinet after exposure to a gas burner flame. Information available to the Commission, including accident data and reports of investigations, indicates that the risk of injury to older children is different than the risk of injury to the younger children who wear sleepwear in sizes 0 through 6x, since older children are better able to protect themselves from fire. Therefore, the two standards should be different because they are directed toward reduction of different levels of hazard.

Accordingly, the Commission has concluded that a separate standard is appropriate for children's sleepwear in sizes 7 through 14.

Paragraph 2 of the proposed Standard, entitled *Scope and application*, has been redesignated paragraph 1 of the final Standard.

2. A number of commenters recommend that the Standard for sizes 7 through 14 should provide that items of children's sleepwear which meet the standard for sizes 0 through 6X (DOC FF 3-71) are in compliance with the proposed Standard. These commenters note that any item of children's sleepwear which meets the test criteria of DOC FF 3-71 would also meet the test criteria of the proposed Standard for sizes 7 through 14.

The Commission observes that all of the test criteria contained in the proposed Standard for sizes 7 through 14 are set forth in identical language in DOC FF 3-71, the standard for sizes 0 through 6X. The Standard for the smaller sizes has one additional test criterion which does not appear in the proposed Standard for sizes 7 through 14. Therefore, no reduction in the stringency of the proposed Standard would occur if the provision requested in these comments were added. For these reasons paragraph 1(c) has been added to the final Standard to provide that fabrics and garments which

meet all of the test criteria of the Standard for the Flammability of Children's Sleepwear (DOC FF 3-71) are in compliance with this Standard.

3. Paragraph 1(a) of the proposed Standard defined the term "children's sleepwear" to mean "any product of wearing apparel from size 7 through size 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. Underwear and diapers are excluded from this definition."

Some commenters request that all boys' robes in sizes 7 through 14 be excluded from the definition of "children's sleepwear," on the ground that they are not worn for sleeping. One commenter questions whether the information which supports the finding of need for the proposed Standard contains any reports of injuries to boys wearing robes in sizes 7 through 14. One commenter requests that the exclusion be limited to boys' robes made from terry or corduroy. Three commenters state that some fabrics used in the manufacture of boys' robes, such as terry and corduroy, are not available with fire retardant characteristics.

The Commission observes that boys' robes in sizes 7 through 14 are frequently and customarily worn before and after sleeping, and are, therefore, items which are "intended to be worn primarily for . . . activities related to sleeping." The information which supports the finding of need for the proposed Standard does include reports of burn accidents involving boys' robes, as well as reports of investigation about the flammability characteristics of boys' robes. The comments requesting the exclusion of boys' robes from the scope of the Standard indicate that some boys' robes are now being made from cotton flannel, and that fire-retardant cotton flannel is commercially available, although at a higher cost than untreated flannel. Additionally, one commenter states that within the past two years, some boys' robes have been manufactured from fire-retardant terry cloth.

Accordingly, the Commission concludes that boys' robes should be subject to the Standard, and the definition of children's sleepwear in the Standard promulgated below is unchanged from the definition which appeared in the proposed Standard.

The paragraph entitled *Definitions*, which was designated 1 in the proposed Standard, has been redesignated 2 in the final Standard.

4. One commenter requests that the definition of "children's sleepwear" be changed to exclude close-fitting pajamas in sizes 7 through 14 because children wearing those pajamas are not likely to put themselves in contact with sources of ignition.

The Commission observes that close-fitting pajamas do burn and are capable of causing burn injuries. The Commission also is aware that some consumers select pajamas several sizes larger than the optimum fit for their children, with the result that pajamas which are de-

signed to fit closely may in fact fit loosely on the child wearing them. For these reasons, the definition of "children's sleepwear" contained in the proposed Standard has not been changed in the final Standard to exclude close-fitting pajamas.

5. The Standard applies to all items of children's sleepwear in sizes 7 through 14 that are manufactured on or after the effective date of the Standard. The Commission believes that the term "manufacture" should be defined to clarify when the manufacturing process ends so all affected parties will know which items are subject to the Standard. Therefore, immediately following this Standard in the FEDERAL REGISTER today, the Commission has published a Notice of Possible Need to Amend the Standard, an institution of proceedings, and a request for comments on this issue.

6. Pursuant to section 4(b) of the Flammable Fabrics Act (15 U.S.C. 1193 (b)), items of children's sleepwear in inventory or with the trade as of the effective date of the Standard are exempt from the Standard, except that the exemption may be limited or withdrawn if the Commission finds any such items are so highly flammable as to be dangerous when used by consumers for the purpose for which they are intended. The Commission believes the term "in inventory or with the trade" should be more fully defined with regard to the date on which items, particularly imported items, are to be considered covered by the Standard.

Immediately following this Standard in the FEDERAL REGISTER today, the Commission has published a Notice of Possible Need to Amend the Standard, an institution of proceedings, and a request for comments on this issue. The Commission is also requesting comments as to whether the Commission should limit the exemption for items in inventory or with the trade as of the effective date of the Standard.

B. Sampling and acceptance procedures. 1. One commenter object to the inclusion of a production sampling plan in the proposed Standard and states that the testing procedures of the proposed Standard should be simplified so that one hundred percent compliance with the Standard could reasonably be expected and enforced. Other commenters approve the use of a sampling plan.

On the basis of information available to the Commission at this time, the Commission has retained the production sampling plan contained in the proposed Standard.

The Commission is aware that the use of sampling plans in mandatory safety standards is a subject of considerable controversy. Therefore, the Commission has scheduled a public hearing for April 4 and 5, 1974, to obtain information and views concerning the use of sampling plans in mandatory safety standards issued by the Commission and in the enforcement of such standards. As a result of information and views presented at the hearing, the Commission may determine there is a possible need to amend

the Standard. The Commission will publish notice of any such determination in the FEDERAL REGISTER and will request comment on such finding.

2. Paragraph 4 of the proposed Standard stated that alternate sampling plans could be submitted to the Secretary of Commerce for approval. A similar provision that alternate sampling plans be submitted to the Consumer Product Safety Commission for approval is included in paragraph 4(a)(1) of the final Standard. Language has been added to paragraph 4(a)(1) to clarify that once the Commission has approved an alternate sampling plan for one manufacturer, other manufacturers may use that plan without obtaining separate approval.

3. Paragraph 4(a) of the proposed Standard prescribed compliance with laundering requirements of paragraph 5(c)(4) of the proposed Standard for fabrics whose flammability characteristics are not dependent on chemical additives or chemical reactants to fiber, yarns, or fabrics.

One commenter asks whether this provision would apply to fabrics made from fibers which have been produced by the use of fire-retardant chemicals or treatments. The Commission concludes that this provision of the proposed standard was intended to apply only to those fabrics with flammability characteristics which are not dependent on any fire-retardant chemical additive or treatment, including additives or treatments which may be applied during the fiber production process. Accordingly, paragraph 4(a)(4) of the final Standard reflects this intention.

4. Paragraph 4(c) of the proposed Standard prescribes a garment sampling procedure. This procedure requires initial testing of preproduction prototype seam and trim designs, and prescribes the criteria by which those designs are to be accepted or rejected. After prototype seam and trim designs are tested and accepted, the proposed Standard prescribes the sampling procedures and testing required of garments from the manufacturer's production. Production testing is performed on portions of a garment containing a seam.

A number of commenters recommend that the provisions of the proposed Standard which require testing of seam and trim prototype designs and the testing of seams from garments in production should be eliminated, and that testing under the Standard should be conducted only on fabrics from which items of children's sleepwear are manufactured. One commenter recommends that provisions which require testing of garment seams be eliminated, but suggests that some testing of prototype trim designs might be desirable. One commenter recommends that testing of prototype seam designs should be retained, but that testing of seams from production garments should be eliminated if the garments are made from nonflammable fabrics.

The Commission observes that seams and trim can affect the flammability

hazard of a garment, and concludes that the testing of seam and trim prototypes and seam segments from production garments is necessary to provide assurance that a fabric which meets the test criteria of the Standard is not made unacceptable by the addition of seams and trim. Accordingly, the provisions of the proposed Standard which require testing of prototype seam and trim designs have been retained and appear in paragraph 4(c)(2) of the final Standard. Provisions of the proposed Standard which require testing of specimens containing seams from production garments appear in paragraph 4(c)(3) of the final Standard.

5. Provisions of paragraph 4(c) of the proposed Standard require initial testing of prototype designs of trim such as ribbons, laces, embroidery or ornaments used on children's sleepwear. Paragraph 1(d) of the proposed Standard contains an exemption from the requirement for prototype testing of trim designs if the individual pieces of trim used on the garment are smaller than two inches in the longest dimension and the total area of the garment covered by trim does not exceed 20 square inches.

Some commenters request that the provisions of paragraph 1(d) of the proposed Standard be changed to eliminate the requirement for prototype testing of trim designs when the individual pieces of trim do not exceed twelve inches in the longest dimension and the total area covered by trim is not more than 40 square inches. One commenter requests modification of paragraph 1(d) of the proposed Standard to eliminate prototype testing of trim designs if the trim is less than two inches wide and does not cover more than 40 square inches of the garment.

The Commission observes that trim can increase the flammability hazard of a garment. Paragraph 1(d) of the proposed Standard was intended to exclude small amounts of trim which are not likely to transmit fire across a large area of the garment and which do not cover a large area of the wearer's body from the requirement for prototype testing contained in paragraph 4(c) of the proposed Standard.

The changes requested would permit a greater amount of trim not subject to testing under the Standard to be used on children's sleepwear garments, and could significantly increase the flammability hazard of those garments. For this reason, the Commission has retained the requirement for testing prototype trim designs, which appears in paragraph 4(c)(2)(ii) of the final Standard, except when individual pieces of trim are smaller than two inches in the longest dimension and do not cover a total of more than 20 square inches of the garment. The exemption from prototype testing of trim designs now appears in paragraph 2(d) of the final Standard.

6. Paragraph 4(c) of the proposed Standard prescribed the sampling procedure to be used for testing garments from production. One commenter requests the addition of a provision to al-

low reduced testing after several consecutive production units have been accepted in accordance with the procedures set forth in the proposed Standard. This commenter observes that the proposed Standard makes provision for reduced sampling of fabrics, and states that a similar provision for reduced sampling of garments from production would reduce the cost of testing garments with an established record of acceptability under the proposed Standard.

The Commission concludes that the addition of the provision requested in this comment is warranted by statistical theory and by practical experience with other flammability standards enforced by this Commission. Accordingly, paragraph 4(c)(3)(ii) of the final Standard prescribes a reduced sampling plan which may be used after 15 consecutive garment production units have been accepted using the normal sampling plan in paragraph 4(c)(3)(i). The reduced sampling plan allows the size of the production unit from which samples are selected to be twice as great as in normal sampling. Under the reduced sampling plan, three samples are selected and tested in the same manner as in the normal sampling plan for garments, and the samples are accepted or rejected on the same basis as in normal sampling. Reduced sampling must be discontinued and normal sampling resumed if a garment production unit is rejected.

7. To illustrate the sampling and acceptance procedures specified by paragraph 4 of the final Standard, the Commission staff has prepared a flow chart, which is available without charge upon written request to the Secretary, Consumer Product Safety Commission, 1750 K Street NW., Washington, D.C. 20207. This chart is not a substitute for the sampling and acceptance procedures prescribed in paragraph 4 of the Standard but has been prepared to diagram those procedures for better understanding.

8. Paragraph 4(b) and (c) of the proposed Standard required certain recordkeeping and stated that the Federal Trade Commission may establish rules and regulations governing recordkeeping. Paragraph 4(d) of the proposed Standard stated that the Federal Trade Commission may submit a compliance market sampling plan for approval to the Secretary of Commerce. Because the functions of the Federal Trade Commission and the Secretary of Commerce under the Flammable Fabrics Act have been transferred to the Consumer Product Safety Commission, paragraph 4(b)(5), (c)(5), and (d), of the final Standard refer to the Consumer Product Safety Commission. In addition, the paragraphs relating to recordkeeping have been clarified to indicate that records of all tests performed under the Standard must be maintained.

C. Test apparatus and procedure. 1. Several commenters question whether the test procedure specified in paragraph 5 of the proposed Standard realistically simulates the conditions under which items of children's sleepwear are exposed to fire in actual use. One commenter

states that the requirement of the proposed Standard that the test specimen must be suspended vertically in the test cabinet and exposed to a flame on the bottom edge is unrealistic because sleepwear garments in sizes 7 through 14 are not likely to be ignited from the bottom when worn by children.

Studies of burn accidents available to the Commission indicate that many flammable fabrics incidents occur after garments contact flame sources from heaters positioned on floors. In many of these incidents, the bottom edge of the garment involved is exposed to a flame in much the same manner as the bottom edge of the test specimen is exposed to the burner flame in the test procedure specified in the proposed Standard.

The Commission concludes that the requirement of the proposed Standard that the burner flame must be impinged on the bottom edge of a vertically suspended test specimen is reasonably related to the pattern of ignition of garments involved in many flammable fabrics incidents. Accordingly, this requirement is retained in the final Standard and appears in paragraph 5(c)(2).

Some of the commenters object to the requirement that the test specimen must be placed in a metal holder when it is exposed to the burner flame. Two commenters state that the use of the metal specimen holder will cause some fabrics which exhibit flame-retardant and self-extinguishing characteristics to fail the proposed Standard.

Some commenters suggest that the test procedure should be changed to require ignition of free-hanging specimens. One commenter urges that the test procedure should require ignition of specimen garments on mannequins. The Commission observes that one of the objectives in the design of the proposed Standard was to prescribe a relatively inexpensive testing procedure that is repeatable and gives reproducible results. The Commission concludes that the use of metal specimen holders is necessary to achieve that objective, and has retained use of specimen holders in the test procedure prescribed by the final Standard.

2. The specimen holder described in paragraph 5(a)(2) and Engineering Drawing Number 7 of the proposed Standard is slightly thicker than the specimen holder required by the Standard for the Flammability of Children's Sleepwear (DOC FF 3-71), which is applicable to sizes 0 through 6X. A number of commenters request modification of the proposed Standard to allow the use of specimen holders prescribed by DOC FF 3-71 in testing under this Standard. Some commenters suggest that the specimen holder prescribed by the proposed Standard be modified or eliminated.

Information available to the Commission indicates that use in this Standard of specimen holders prescribed in the flammability standard for sizes 0 through 6X (DOC FF 3-71) will not affect test results, and for that reason, the tolerances for the specimen holder as set forth in Engineering Drawing Number 7 of the Standard have been modified to allow use of specimen holders which meet

the design requirements of DOC FF 3-71. For enforcement purposes, the Commission will test with either type specimen holder. Persons desiring to make other modifications to the specimen holders required by the Standard may request approval to use alternate test apparatus in accordance with paragraph 5(a).

3. Some commenters suggest modifications to the design of the test chamber described in paragraph 5(a)(1) of the proposed Standard. No specific information or test data were submitted to the Commission to support the contention that the modifications to the design of the test chamber requested in these comments would improve the Standard.

Although it is possible that modifications to various items of test apparatus required by the Standard may be desirable, at this time the Commission lacks the necessary information to make a judgment about the merits of the modifications suggested by these commenters. Accordingly, the specific changes to the design of the test chamber which were requested in these comments have not been incorporated in the description of the test chamber which appears in paragraph 5(a)(1) of the final Standard. However, language has been added to paragraph 5(a) to state that alternate test apparatus may be used with prior approval of the Commission.

4. Paragraph 5(b) of the proposed Standard provided that test specimens must be conditioned at a temperature of 21 (plus or minus one) degrees Centigrade (70 (plus or minus two) degrees Fahrenheit) and at a relative humidity of 65 (plus or minus 5) percent for eight hours prior to testing. A number of commenters request that the provisions of the proposed Standard be changed to require that specimens be oven dried and cooled in a desiccator before testing, which is the conditioning procedure required by DOC FF 3-71. These commenters state that this Standard should be as stringent as the Standard for sizes 0 through 6X. Some commenters recommend elimination of the requirement for conditioning of test specimens at 65 percent relative humidity because small manufacturers do not have the physical facilities to condition specimens at that humidity level.

At a meeting with the Commission staff on September 12, 1973, representatives of the Man-Made Fiber Producers Association, Inc., opposed any modification of the provisions of the proposed Standard which require conditioning of test specimens at 65 percent relative humidity. The substance of the objection was that any reduction of the relative humidity at which test specimens are to be conditioned would require the use of finishes that would increase the cost and decrease the durability of rayon fabric intended for use in children's sleepwear.

At a public meeting on November 28, 1973, representatives of the National Wool Growers Association and the Wool Bureau, Inc., stated that because of the moisture-retaining properties of wool fibers, garments made of 100 percent wool would be able to meet the test cri-

teria of the proposed Standard if the requirement for conditioning of test specimens at 65 percent relative humidity were retained, but would not meet those criteria if oven drying of test specimens were required instead. They stated that oven drying would remove moisture which would be present in wool garments under normal conditions of use, and that substitution of oven drying of test specimens for the conditioning procedures set forth in the proposed Standard would preclude the use of 100 percent wool fabric in children's sleepwear. A number of other comments, both written and oral, oppose a requirement for oven drying. Some commenters suggest that if oven drying were substituted for the conditioning procedures in the proposed Standard, a separate flammability standard for woolen garments should be considered.

A number of commenters request that the relative humidity specified for the conditioning process be changed from 65 (plus or minus five) percent to any relative humidity not exceeding 65 percent. Other commenters suggest that the conditioning requirements of the proposed Standard might be altered to require one specified level of relative humidity lower than 65 percent rather than oven drying.

Information available to the Commission demonstrates that variations in relative humidity will substantially increase variability in test results. If the conditioning requirements of the proposed Standard were changed to allow conditioning at any relative humidity not greater than 65 percent, the Commission foresees that the process of determining whether specific items are in compliance with the Standard could be difficult because of conflicting test conditions. Therefore, the Commission concludes that testing to determine acceptability under the Standard should be performed after specimens have been conditioned by a uniform procedure, and requests to allow conditioning of test specimens at any relative humidity not exceeding 65 percent have not been granted.

The Commission is aware that the requirement that test specimens be conditioned for a given period of time at 65 percent relative humidity (or at any other specified level or relative humidity) would impose a substantial cost burden on some manufacturers to obtain the equipment needed to meet such a conditioning requirement. The Commission also has information which shows that when outside temperatures are significantly below the freezing point, relative humidities in homes are not greatly different from relative humidities over silica gel in a desiccator. For these reasons and on the basis of its investigations, the Commission has concluded that the conditioning provisions of the proposed Standard should be changed to a requirement that test specimens be placed in a drying oven capable of maintaining them at a temperature of 105 (plus or minus 2.8) degrees centigrade [221 (plus or minus 5) degrees Fahrenheit] for a period of 30 minutes and then placed in a desiccator contain-

ing silica gel for 30 minutes to cool. This conditioning requirement is set forth in paragraph 5(b) of the final Standard and is identical to the pretest conditioning procedure required by the Standard for sizes 0 through 6X (DOC FF 3-71). Paragraphs 5(a) (9) and (10) of the final Standard prescribe the operating characteristics of the circulating air oven and desiccator, required by the Standard.

Immediately following this Standard in the FEDERAL REGISTER today, the Commission has published a Notice of Possible Need to Amend the Standard to allow, among other things, exceptions to the requirement for testing under oven dry conditions.

As a result of information presented in comments received in response to the Notice of Proposed Standard, the Commission believes that there may be a need to amend the Standard to allow exceptions to testing under the oven dry conditions. The Commission believes that it should establish a maximum relative humidity at which items could be tested and that it should require those who request exceptions to state the relative humidity at which they will test items under the Standard. For enforcement purposes, the Commission would test according to the provisions of the exceptions which had been granted.

5. Paragraph 5(c) (1) of the proposed Standard provides that the height of the flame from the burner used for testing shall be 3.8 centimeters (one and one-half inches). Some commenters request that the Standard specify that flame height is to be determined by measuring the total height of the flame rather than that portion of the flame which is yellow in color. The intent of paragraph 5(c) (1) was to obtain a flame with a total height of 3.8 centimeters, measuring all of the flame which is visible. Information available to the Commission indicates that by following the instructions contained in paragraph 5(c) (1) of the proposed Standard, different operators working under different laboratory conditions have had no difficulty obtaining a flame of uniform height. Accordingly, the Commission concludes that no modification of the language of paragraph 5(c) (1) of the proposed Standard is needed.

6. Paragraph 5(c) (2) of the proposed Standard provides that specimens shall be exposed to the burner flame for a period of three seconds. One commenter requests that the period of exposure to the burner flame be reduced to two seconds to allow more fabrics to pass the test criteria of the proposed Standard.

Investigation of the flammability characteristics of various fabrics which led to the development of the proposed Standard and the Standard applicable to sizes 0 through 6X (DOC FF 3-71) and experience with DOC FF 3-71 demonstrate that items of sleepwear can be manufactured which will meet the test criteria of the Standards when specimens are exposed to the burner flame for three seconds. The Commission concludes that the change requested would

reduce the stringency of the proposed Standard, and that such a reduction in stringency would not be in the public interest in view of the fact that fabrics and garments are now being manufactured which meet the test criteria of the proposed Standard when exposed to a burner flame for a period of three seconds. Accordingly, paragraph 5(c) (2) of the final Standard retains the requirement for exposure of the test specimen to the burner flame for a period of three seconds.

7. One commenter recommends that precautions should be included in the description of the test procedures in the proposed Standard to warn against hazards of explosion and asphyxiation which are involved with the use of methane gas, the burner fuel specified by the proposed Standard. The Commission concludes that the use of methane gas in the test procedure does involve some risk of injury to persons performing the testing specified by the final Standard, and has added language to paragraph 5(c) (2) to advise the test operator to vent the hood and testing cabinet to remove smoke and toxic gases after testing each specimen.

8. Paragraph 5(c) (2) of the proposed Standard set forth the procedure for exposing each individual test specimen to the burner flame and measuring the charred or melted portion of the specimen which results from ignition of the specimen. In some cases, when a test specimen is exposed to a burner flame, the specimen will ignite, burn for a period of time with a readily visible flame which extinguishes itself, and then slowly smolder. During the smoldering stage, which may occur after flaming ceases (commonly called "afterglow"), little heat is generated, but the fabric is consumed by oxidation.

Paragraph 5(c) (2) of the proposed Standard provides that measurement of the charred or melted area of the specimen will be done "(w)hen afterglow has ceased."

Some commenters request elimination of the requirements that afterglow must cease before measurements and addition of a new provision to require measurements to be made after flaming has ceased. These commenters state that because afterglow spreads slowly and generates little heat, it presents little or no risk of burn injury. They also state that if the requested change were made, many flame-retardant materials might be suitable for application to fabrics used in the manufacture of children's sleepwear, giving rise to the possibility that flame-retardant children's sleepwear might become available to consumers at a lower cost than now prevails.

The Commission staff has evaluated several cotton fabrics treated with experimental flame-retardant materials which, after ignition, will cease burning with a visible flame after a short period of time, but will exhibit an afterglow. The afterglow observed on these fabrics generated little heat, was easily extinguished with the fingers, and consumed the fabric at a very slow rate. On the

basis of the evaluation of these fabrics by the Commission staff, the Commission concludes that such fabrics present a sufficiently minimal risk of injury to consumers from burns that their development for use in children's sleepwear should be encouraged.

Accordingly, paragraph 5(c)(2)(ii) of the final Standard provides that after flaming has ceased on the test specimen and when afterglow is present, the test specimen shall be removed from the test cabinet and the afterglow extinguished by placing the test specimen between two metal plates called "extinguishing plates." (The specifications for the extinguishing plates appear in paragraph 5(a)(12) of the Standard.) When the afterglow has been extinguished, measurement of the charred or melted area of the test specimen is performed.

9. Paragraph 5(c)(4) of the proposed Standard requires that one set of specimens for testing shall be taken from finished items as produced and another set from items which have been washed and dried 50 times using Test Method 124-1969 of the American Association of Textile Chemists and Colorists. One commenter requests that the laundering requirement be reduced to washing and drying ten times using the prescribed method. Another commenter requests that the requirement for drying items after each washing be eliminated. Both commenters wish to reduce the time required for the laundering procedure.

The Commission observes that flame-retardant treatments often are progressively reduced in effectiveness by washing or by drying. The requirement in paragraph 5(c)(4) of the proposed Standard that test specimens be taken from items which have been washed and dried 50 times is intended to provide assurance that any flame-retardant treatment used in the manufacture of an item subject to the Standard will be effective for the expected life of that item. The Commission concludes that such assurance cannot be obtained by fewer than 50 washings and dryings, and for that reason, paragraph 5(c)(4)(i) of the final Standard retains the requirement that items from which test specimens are taken must be washed and dried 50 times.

Paragraph 5(c)(4) of the proposed Standard states that the Federal Trade Commission may authorize alternate laundering procedures, and may approve pretest dry-cleaning procedures for items which cannot be laundered. Because the functions of the Federal Trade Commission under the Flammable Fabrics Act have been transferred to the Consumer Product Safety Commission, paragraph 5(c)(4)(ii) of the final Standard states that the Consumer Product Safety Commission may prescribe alternate laundering procedures, and paragraph 5(c)(4)(iii) states that the Consumer Product Safety Commission may approve pretest dry-cleaning procedures for items which cannot be laundered.

D. *Labeling.* 1. Paragraph 6 of the proposed Standard requires that items of children's sleepwear shall be labeled with precautionary instructions concern-

ing care of the item to prevent deterioration of the flame-resistance of the item. One commenter requests that the Standard allow instructions to be worded in positive rather than negative language. The Commission concludes that the terms of paragraph 6 of the proposed Standard would not preclude the use of positively worded instructions, provided that such instructions are accurate and capable of being understood and followed by consumers. Accordingly, no change has been made to the provisions of paragraph 6 of the final Standard.

2. Paragraph 6 of the proposed Standard provides that finished items which are tested after one laundering must be labeled with instructions to wash before wearing. One commenter requests that this requirement be eliminated from the proposed Standard. The Commission observes that the provision of paragraph 5(c)(4)(i) of the Standard, which allows test specimens to be taken from finished items after one washing and drying, is intended to permit the removal of potentially flammable processing oils before testing. The Commission concludes that instructions to wash such items before wearing are necessary to insure that consumers will derive full benefit of the flame-resistant characteristics of such garments. Accordingly, the change requested in this comment has not been made.

3. Paragraph 6 of the proposed Standard contained language authorizing the Federal Trade Commission to issue rules and regulations implementing the labeling requirements of the proposed Standard. Because the functions of the Federal Trade Commission under the Flammable Fabrics Act have been transferred to the Consumer Product Safety Commission, paragraph 6 of the final standard states that the Consumer Product Safety Commission may issue rules and regulations to govern labeling of items subject to the Standard. Any proposed rules or regulations affecting labeling of items subject to the Standard will be published in the FEDERAL REGISTER for public comment before promulgation by the Consumer Product Safety Commission.

4. Immediately following this Standard in the FEDERAL REGISTER today, the Commission has published a Notice of Finding of Possible Need for Amendment to the Standard to require all complying items manufactured on or after the effective date of the Standard to bear affirmative labels. The Commission believes such labeling should be required until stocks of noncomplying items are exhausted in order to avoid confusion in the marketplace. Comments and views are invited on this finding of possible need for amendment.

E. *Effective date.* Section 4(b) of the Flammable Fabrics Act provides that any flammability standard issued under that Act will become effective twelve months after promulgation, unless it is found for good cause shown, that an earlier or later effective date is in the public interest. One commenter requests that the effective date of the Standard be delayed

until flame-retardant fabric becomes available to manufacturers of children's sleepwear in sizes 7 through 14. Another requests addition of a provision that noncomplying items could be manufactured for one year after the effective date of the Standard, if warning labels are attached.

Investigation by the Commission staff and the National Bureau of Standards indicates that the textile and apparel industries will be able to comply with the Standard within twelve months after promulgation. Accordingly, the final Standard shall become effective on May 1, 1975.

The Consumer Product Safety Commission has made appropriate changes to the Standard proposed by the Secretary of Commerce on March 12, 1973, on the basis of comments received, additional investigation by the staff of the Commission, and other relevant information. The National Advisory Committee for the Flammable Fabrics Act was consulted as to this Standard at a meeting on May 16, 1973.

The Consumer Product Safety Commission finds that the Standard for the Flammability of Children's Sleepwear, sizes 7 through 14 (FF 5-74) is:

1. Needed for children's sleepwear in sizes 7 through 14 to protect the public against unreasonable risk of the occurrence of fire leading to death, personal injury, or significant property damage; and

2. Reasonable, technologically practicable, and appropriate, and stated in objective terms; and

3. Limited to items of children's sleepwear in sizes 7 through 14 which currently present unreasonable risks of the occurrence of fire leading to death, personal injury, or significant property damage.

Therefore, pursuant to provisions of the Flammable Fabrics Act (sec. 4, 67 Stat. 112, as amended 81 stat. 569-70, 15 U.S.C. 1193) and under authority vested in the Consumer Product Safety Commission by the Consumer Product Safety Act (Public Law 92-573, sec. 30(b), 86 Stat. 1231; 15 U.S.C. 2079(b)), the Standard is promulgated as follows:

CHILDREN'S SLEEPWEAR, SIZES 7 THROUGH 14

STANDARD FOR THE FLAMMABILITY OF CHILDREN'S SLEEPWEAR, SIZES 7 THROUGH 14 [ZF 5-74]

1. Scope and application
2. Definitions
3. General requirements
4. Sampling and acceptance procedures
5. Test procedure
6. Labeling requirements

AUTHORITY: Sec. 4, 67 stat. 112, as amended 81 stat. 569-70; 15 U.S.C. 1193.

1. *Scope and application.* (a) This Standard provides a test method to determine the flammability of children's sleepwear, sizes 7 through 14 and fabric or related material intended or promoted for use in such children's sleepwear.

(b) All sleepwear items as defined in 2(c), are subject to the requirements of this Standard.

(c) Children's sleepwear items which meet all the requirements of the Standard for the Flammability of Children's Sleepwear (DOC FF 3-71), sizes 0 through 6X, are in compliance with this Standard. (DOC FF 3-71 was issued July 29, 1971 (36 FR 14062), and amended July 21, 1972 (37 FR 14624)).

(d) As used in this Standard, "pass" and "fail" refer to the test criteria for specimens while "accept" and "reject" refer to the acceptance or rejection of a production unit under the sampling plan.

2 *Definitions.* In addition to the definitions given in section 2 of the Flammable Fabrics Act, as amended (sec. 2, 81 stat. 568; 15 U.S.C. 1191) and section 7.2 of the Flammable Fabrics Act Procedures issued by the Department of Commerce (15 CFR 7.2) and continued in effect by the Consumer Product Safety Commission, the following definitions apply for the purposes of this Standard:

(a) "Children's sleepwear" means any product of wearing apparel size 7 through size 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. Underwear and diapers are excluded from this definition.

(b) "Sizes 7 through 14" means the sizes defined as 7 through 14 in Department of Commerce Voluntary Product Standards PS 54-72 and PS 36-70, previously identified as Commercial Standards, CS 153-48, "Body Measurements for the Sizing of Girls' Apparel" and CS 155-50, "Body Measurements for the Sizing of Boys' Apparel", respectively.

(c) "Item" means any product of children's sleepwear or any fabric or related material intended or promoted for use in children's sleepwear.

(d) "Trim" means decorative materials, such as ribbons, laces, embroidery, or ornaments. This definition does not include (1) individual pieces less than 2 inches in their longest dimension, provided that such pieces do not constitute or cover in aggregate a total of more than 20 square inches of the item or (2) functional materials (findings), such as zippers, buttons, or elastic bands, used in the construction of garments.

(e) "Test criteria" means the average char length and the maximum char length which a sample or specimen may exhibit in order to pass an individual test.

(f) "Char length" means the distance from the original lower edge of the specimen exposed to the flame in accordance with the procedure specified in .5 *Test procedure to the end of the tear or void* in the charred, burned, or damaged area, the tear being made in accordance with the procedure specified in .5(c)(2) *Specimen burning and evaluation*.

(g) "Afterglow" means the continuation of glowing of parts of a specimen after flaming has ceased.

(h) "Fabric piece" (piece) means a continuous, unseamed length of fabric, one or more of which make up a unit.

(i) "Fabric production unit" (unit) means any quantity of finished fabric up to 4,600 linear m. (5,000 linear yds.) for Normal Sampling or 9,200 linear m. (10,000 linear yds.) for Reduced Sampling which has a specific identity that remains unchanged throughout the unit except for color or print pattern as specified in .4(a). For purposes of this definition, finished fabric means fabric in its final form after completing its last processing step as a fabric except for slitting.

(j) "Garment production unit" (unit) means any quantity of finished garments up to 500 dozen which have a specific identity that remains unchanged throughout the unit except for size, trim, findings, color, and print patterns as specified in .4(a).

(k) "Sample" means five test specimens.

(1) "Specimen" means an $2.5 \pm 0.5 \times 25.4 \pm 0.5$ cm. ($3.5 \pm 0.2 \times 10 \pm 0.2$ in.) section of fabric. For garment testing, the specimen will include a seam or trim.

3 *General requirements—(a) Summary of test method.* Conditioned specimens are suspended one at a time vertically in holders in a prescribed cabinet and subjected to a standard flame along their bottom edges for a specified time under controlled conditions. The char lengths are recorded.

(b) *Test criteria.* The test criteria when the testing is done in accordance with 4 *Sampling and acceptance procedures* and 5 *Test procedure* are:

(1) *Average char length.* The average char length of five specimens shall not exceed 17.8 cm. (7.0 in.).

(2) *Full-specimen burn.* No individual specimen shall have a char length of 25.4 ± 0.5 cm. (10 ± 0.2 in.).

(c) Details of the number of specimens which must meet the above test criteria for unit acceptance is specified in section 4.

4 *Sampling and acceptance procedures—(a) General.* (1) The test criteria of 3(b) shall be used in conjunction with the following fabric and garment sampling plan. The Consumer Product Safety Commission may consider and approve other sampling plans that provide at least the equivalent level of fire safety to the consumer, provided such alternate sampling plans have operating characteristics such that the probability of unit acceptance at any percentage defective does not exceed the corresponding probability of unit acceptance of the following sampling plan in the region of the latter's operating characteristic curves that lies between 5 and 95 percent acceptance probability. Alternate sampling plans approved for one manufacturer may be used by other manufacturers without prior Consumer Product Safety Commission approval.

(2) Different colors or different print patterns of the same fabric may be included in a single fabric or garment production unit, provided such colors or print patterns demonstrate char lengths that are not significantly different from each other as determined by previous testing of at least three samples from

each color or print pattern to be included in the unit.

(3) Garments with different trim and findings may be included in a single garment production unit provided the other garment characteristics are identical except for size, color, and print pattern.

(4) For fabrics whose flammability characteristics are not dependent on chemical additives or chemical reactants to polymer, fiber, yarns, or fabrics, the laundering requirement of .5(c)(4) is met on subsequent fabric production units if results of testing an initial fabric production unit demonstrate acceptability according to the requirements of .4(b) *Normal sampling*, both before and after the appropriate laundering.

(5) If the fabric has been shown to meet the laundering requirement, .5(c)(4), the garments produced from that fabric are not required to be laundered prior to testing.

(6) Each sample (five specimens) for Fabric Sampling shall be selected so that two specimens are in one fabric direction (machine or cross-machine) and three specimens are in the other fabric direction, except for the additional sample selected after a failure, in which case all five specimens shall be selected in the fabric direction in which the specimen failure occurred.

(7) Fabric samples may be selected from fabric as outlined in .4(b) *Fabric sampling* or, for verification purposes, from randomly selected garments.

(8) Multi-layer fabrics shall be tested with a hem of approximately 2.5 cm. (1 in.) sewn at the bottom edge of the specimen with a suitable thread and stitch. The specimen shall include each of the components over its entire length. Garments manufactured from multi-layer fabrics shall be tested with the edge finish which is used in the garment at the bottom edge of the specimen.

(b) *Fabric sampling.* A fabric production unit (unit) is either accepted or rejected in accordance with the following plan:

(1) *Normal sampling.* Select one sample from the beginning of the first fabric piece (piece) in the unit and one sample from the end of the last piece in the unit, or select a sample from each end of the piece if the unit is made up of only one piece. Test the two selected samples. If both samples meet all the test criteria of .3(b), accept the unit. If either or both of the samples fail the 17.8 cm. (7.0 in.) average char length criterion, .3(b)(1), reject the unit. If two or more of the individual specimens, from the 10 selected specimens, fail the 25.4 cm. (10 in.) char length criterion, .3(b)(2), reject the unit. If only one individual specimen, from the 10 selected specimens, fails the 25.4 cm. (10 in.) char length criterion, .3(b)(2), select five additional specimens from the same end of the piece in which the failure occurred, all five to be taken in the fabric direction in which the specimen failure occurred. If this additional sample passes all the test criteria, accept the unit. If this additional sample fails

¹ Copies available from the National Technical Information Service, 6285 Port Royal Street, Springfield, Virginia 22161.

any part of the test criteria, reject the unit.

(2) *Reduced sampling.* (1) The level of sampling required for fabric acceptance may be reduced provided the preceding 15 units of the fabric have all been accepted using the Normal Sampling Plan.

(ii) The reduced Sampling Plan shall be the same as for Normal Sampling except that the quantity of fabric in the unit may be increased to 9,200 linear m. (10,000 linear yds.).

(iii) Select and test two samples in the same manner as in Normal Sampling. Accept or reject the unit on the same basis as with Normal Sampling.

(iv) Reduced Sampling shall be discontinued and Normal Sampling resumed if a unit is rejected.

(3) *Tightened sampling.* Tightened sampling shall be used when a unit is rejected under the Normal Sampling Plan. The Tightened Sampling shall be the same as Normal Sampling except that one additional sample shall be selected and cut from a middle piece in the unit. If the unit is made up of less than two pieces, the unit shall be divided into at least two pieces. The division shall be such that the pieces produced by the division shall not be smaller than 92 linear m. (100 linear yds.) or greater than 2,300 linear m. (2,500 linear yds.). If the unit is made up of two pieces, the additional sample shall be selected from the interior end of one of the pieces. Test the three selected samples. If all three selected samples meet all the test criteria of 3(b), accept the unit. If one or more of the three selected samples fail the 17.8 cm. (7.0 in.) average char length criterion, 3(b)(1), reject the unit. If two or more of the individual specimens, from the 15 selected specimens, fail the 25.4 cm. (10 in.) char length criterion, 3(b)(2), reject the unit. If only one individual specimen, from the 15 selected specimens, fails the 25.4 cm. (10 in.) char length criterion, 3(b)(2), select five additional specimens from the same end of the same piece in which the failure occurred, all five to be taken in the fabric direction in which the specimen failure occurred. If this additional sample passes all the test criteria, accept the unit. If this additional sample fails any part of the test criteria, reject the unit. Tightened Sampling may be discontinued and Normal Sampling resumed after five consecutive units have all been accepted using Tightened Sampling. If Tightened Sampling remains in effect for 15 consecutive units, production of the specific fabric in Tightened Sampling must be discontinued until that part of the process or component which is causing failure has been identified and the quality of the end product has been improved.

(4) *Disposition of rejected units.* (1) The piece or pieces which have failed and resulted in the initial rejection of the unit may not be retested, used, or promoted for use in children's sleepwear as defined in 2(a) of this Standard and 1(a) of DOC FF 3-71 except after reworking to improve the flammability

characteristics and subsequent retesting and acceptance in accordance with the procedures in *Tightened Sampling*.

(ii) The remainder of a rejected unit, after removing the piece or pieces, the failure of which resulted in unit rejection, may be accepted if the following test plan is successfully concluded at all required locations. The required locations are those adjacent to each such failed piece. (Required locations exist on both sides of the "Middle Piece" tested in Tightened Sampling if failure of that piece resulted in unit rejection). Failure of a piece shall be deemed to have resulted in unit rejection if unit rejection occurred and a sample or specimen from the piece failed any test criterion of 3(b).

(iii) The unit should contain at least 15 pieces for disposition testing after removing the failing pieces. If necessary for this purpose, the unit shall be demarcated into at least 15 approximately equal length pieces unless such division results in pieces shorter than 92 linear m. (100 linear yds.). In this latter case, the unit shall be demarcated into roughly equal length pieces of approximately 92 linear m. (100 linear yds.) each. If such a division results in five pieces or less in the unit for each failing piece after removing the failing pieces, only the individual pieces retest procedure [described in 4(b)(4)(vi)] may be used.

(iv) Select and cut a sample from each end of each adjoining piece beginning adjacent to the piece which failed. Test the two samples from the piece. If both samples meet all the test criteria of 3(b), the piece is acceptable. If one or both of the two selected samples fail the 17.8 cm. (7.0 in.) average char length criterion, 3(b)(1), the piece is unacceptable. If two or more of the individual specimens, from the 10 selected specimens, fail the 25.4 cm. (10 in.) char length criterion, 3(b)(2), the piece is unacceptable. If only one individual specimen, from the 10 selected specimens, fails the 25.4 cm. (10 in.) char length criterion, 3(b)(2), select five additional specimens from the same end of the piece in which the failure occurred, all five to be taken in the fabric direction in which the specimen failure occurred. If this additional sample passes all the test criteria, the piece is acceptable. If this additional sample fails any part of the test criteria, the piece is unacceptable.

(v) Continue testing adjoining pieces until a piece has been found acceptable. Then continue testing adjoining pieces until three successive adjoining pieces, not including the first acceptable piece, have been found acceptable or until five such pieces, not including the first acceptable piece, have been tested, whichever occurs sooner. Unless three successive adjoining pieces have been found acceptable among five such pieces, testing shall be stopped and the entire unit rejected without further testing. If three successive pieces have been found acceptable among five such pieces, accept the three successive acceptable pieces and the remaining pieces in the unit.

(vi) Alternately, individual pieces from a rejected unit containing three or more pieces may be tested and accepted or rejected on a piece by piece basis according to the following plan, after removing the piece or pieces, the failure of which resulted in unit rejection.

Select four samples (two from each end) from the piece. Test the four selected samples. If all four samples meet all the test criteria of 3(b), accept the piece. If one or more of the samples fail the 17.8 cm. (7.0 in.) average char length criterion, 3(b)(1), reject the piece. If two or more of the individual specimens, from the 20 selected specimens, fail the 25.4 cm. (10 in.) char length criterion, 3(b)(2), reject the piece. If only one individual specimen, from the 20 selected specimens, fails the 25.4 cm. (10 in.) char length criterion, 3(b)(2), select two additional samples from the same end of the piece in which the failure occurred. If these additional two samples meet all the test criteria of 3(b), accept the piece. If one or both of the two additional samples fail any part of the test criteria, reject the piece.

(vii) The pieces of a unit rejected after retesting may not be retested, used, or promoted for use in children's sleepwear as defined in 2(a) of this Standard and 1(a) of DOC FF 3-71 (Standard for the Flammability of Children's Sleepwear, sizes 0 through 6X) except after reworking to improve the flammability characteristics, and subsequent retesting in accordance with the procedures set forth in *Tightened Sampling*.

(5) *Records.* Written and physical records related to all tests performed under this Standard must be maintained by the manufacturer, importer, or other persons initially introducing items into commerce which are subject to this Standard, beginning on the effective date of the Standard. Such records shall include results of all tests, sizes of all units, and the disposition of all rejected pieces and units. Rules and regulations regarding recordkeeping may be established by the Consumer Product Safety Commission.

(c) *Garment sampling.* (1)(i). The Garment Sampling Plan is made up of two parts: (1) Prototype Testing and (2) Production Testing. Prior to production, prototypes must be tested to assure that the design characteristics of the garment are acceptable. Garment production units (units) are then accepted or rejected on an individual unit basis.

(ii) Edge finishes such as hems, except in multi-layer fabrics, and binding are excluded from testing except that when trim is used on an edge the trim must be subjected to prototype testing. Seams attaching findings are excluded from testing.

(2) *Prototype testing.* Pre-production prototype testing of each seam and trim specification to be included in each garment in a garment production unit shall be conducted to assure that garment specifications meet the flammability requirements of the Standard prior to production.

(i) *Seams.* Make three samples (15 specimens) using the longest seam type

and three samples using each other seam type 10 inches or longer that is to be included in the garment. For purposes of recordkeeping, prior to testing, assign each specimen to one of the three samples. Test each set of three samples and accept or reject each seam design in accordance with the following plan:

(A) If all three samples meet all the test criteria of .3(b), accept the seam design. If one or more of the three samples fail the 17.8 cm. (7.0 in.) average char length criterion, .3(b)(1), reject the seam design. If three or more of the individual specimens from the 15 selected specimens fail the 25.4 cm. (10 in.) char length criterion, .3(b)(2), reject the seam design. If only one of the individual specimens from the 15 selected specimens fails the 25.4 cm. (10 in.) char length criterion, .3(b)(2), accept the seam design.

(B) If two of the individual specimens from the 15 selected specimens fail the 25.4 cm. (10 in.) char length criterion, .3(b)(2), select three more samples (15 specimens) and retest. If all three additional samples meet all the test criteria of .3(b), accept the seam design. If one or more of the three additional samples fail the 17.8 cm. (7.0 in.) average char length criterion, .3(b)(1), reject the seam design.

If two or more of the individual specimens from the 15 selected additional specimens fail the 25.4 cm. (10 in.) char length criterion, .3(b)(2), reject the seam design. If only one of the individual specimens from the 15 selected additional specimens fails the 25.4 cm. (10 in.) char length criterion, .3(b)(2), accept the seam design.

(1) *Trim*—(A) Make three samples (15 specimens) from each type of trim to be included in the garment. Specimens shall be prepared by sewing or attaching the trim to the center of the vertical axis of an appropriate section of untrimmed fabric, beginning the sewing or attachment at the lower edge of each specimen. The sewing or attachment shall be made in the manner in which the trim is to be attached to the garment.

(B) Sewing or otherwise attaching the trim shall be done with thread or fastening material of the same composition and size to be used for this purpose in the garment and using the same stitching or seam type or other attaching procedure. The trim shall be sewn or fastened the entire length of the specimen. Prior to testing, assign each specimen to one of the three samples. Test the sets of three samples and accept or reject the type of trim and design on the same basis as seam design.

(3) *Production testing*. A unit is either accepted or rejected according to the following plan:

(1) *Normal sampling*. (A) From each unit, select at random sufficient garments and cut three samples (15 specimens) from the longest seam type. No more than five specimens may be cut from a single garment. Prior to testing, assign each specimen to one of the three samples. All specimens cut from a single garment must be included in the same sample. Test the three selected samples.

If all three samples meet all the test criteria of .3(b), accept the unit. If one or more of the three samples fail the 17.8 cm. (7.0 in.) average char length criterion, .3(b)(1), reject the unit. If four or more of the individual specimens from the 15 selected specimens fail the 25.4 cm. (10 in.) char length criterion, .3(b)(2), reject the unit. If three or less of the individual specimens from the 15 selected specimens fail the 25.4 cm. (10 in.) char length criterion, .3(b)(2), accept the unit.

(B) If the garment under test does not have a seam at least 10 inches long in the largest size in which it is produced, the following selection and testing procedure shall be followed:

Select and cut specimens 8.9 cm. (3.5 in.) wide by the maximum available seam length, with the seam in the center of the specimen and extending the entire specimen length. Cut three samples (15 specimens). These specimens shall be placed in specimen holders so that the bottom edge is even with the bottom edge of the specimen holder and the seam begins in the center of the bottom edge. Prior to testing, assign each specimen to one of the three samples. All specimens cut from a single garment must be included in the same sample.

Test the three samples. If all three samples pass the 17.8 cm. (7.0 in.) average char length criterion, .3(b)(1), and if three or fewer individual specimens fail by charring the entire specimen length, accept the unit. If the unit is not accepted in the above test, three samples (15 specimens) of the longest seam type shall be made using fabric and thread from production inventory and sewn on production machines by production operators. The individual fabric sections prior to sewing must be no larger than 20.3 x 63.3 cm. (8 x 25 in.) and must be selected from more than one area of the base fabric. Test the three prepared samples. Accept or reject the unit as described previously in this subsection.

(1) *Reduced sampling*. The level of sampling required for garment acceptance may be reduced provided the previous 15 units of the garments have all been accepted using the Normal Sampling Plan.

The Reduced Sampling Plan shall be the same as for Normal Sampling except that the quantity of garments under test may be increased to up to two production units containing garments which have the same specific identity except for size, trim, findings, color, and print patterns as specified in .4(a).

Select and test three samples in the same manner as in Normal Sampling. Accept or reject both units on the same basis as with Normal Sampling.

Reduced Sampling shall be discontinued and Normal Sampling resumed if a unit is rejected.

(4) *Disposition of rejected units*. Rejected units shall not be retested, used, or promoted for use in children's sleepwear as defined in .2(a) of this Standard and .1(a) of DOC FF 3-71 except after reworking to improve the flammability characteristics and subsequent retesting

in accordance with the procedures set forth in *Garment production testing* (Paragraph 4(c)(3)).

(5) *Records*. Written and physical records related to all tests performed under this Standard must be maintained by the manufacturer, importer, or other persons initially introducing items into commerce which are subject to this Standard, beginning on the effective date of this Standard. Such records shall include results of all tests, sizes of all units, and the disposition of all rejected pieces and units. Rules and regulations regarding recordkeeping may be established by the Consumer Product Safety Commission.

(d) *Compliance market sampling plan*. Sampling plans for use in market testing of items covered by this Standard may be issued by the Consumer Product Safety Commission. Such plans shall define noncompliance of a production unit to exist only when it is shown, with a high level of statistical confidence, those production units represented by tested items which fail such plans will, in fact, fail this Standard.

Production units found to be noncomplying under the provisions of this section .4(d), shall be deemed not to conform to this Standard.

The Consumer Product Safety Commission may publish such plans in the FEDERAL REGISTER.

.5 *Test procedure*—(a) *Apparatus*. The following test apparatus shall be used for the test. Alternate test apparatus may be used only with prior approval of the Consumer Product Safety Commission.

(1) *Test chamber*. The test chamber shall be a steel cabinet with inside dimensions of 32.9 cm. (12⁷/₁₆ in.) wide, 32.9 cm. (12⁷/₁₆ in.) deep, and 76.2 cm. (30 in.) high. It shall have a frame which permits the suspension of the specimen holder over the center of the base of the cabinet at such a height that the bottom of the specimen is 1.7 cm. (3/4 in.) above the highest point of the barrel of the gas burner specified in .5(a)(3). *Burner* and perpendicular to the front of the cabinet. The front of the cabinet shall be a close-fitting door with a transparent insert to permit observation of the entire test. The cabinet floor may be covered with a piece of asbestos paper, whose length and width are approximately 2.5 cm. (1 in.) less than the cabinet floor dimensions. The cabinet to be used in this test method is illustrated in Figure 1 and detailed in Engineering Drawings, Numbers 1 through 7.

(2) *Specimen holder*. The specimen holder to be used in this test method is detailed in Engineering Drawing Number 7. It is designed to permit suspension of the specimen in a fixed vertical position and to prevent curling of the specimen when the flame is applied.

The specimen shall be fixed between the plates, which shall be held together with side clamps.

(3) *Burner*. The burner shall be the same as that illustrated in Figure 1 and detailed in Engineering Drawing Num-

ber 6. It shall have a tube of 1.1 cm. (0.43 in.) inside diameter. The input line to the burner shall be equipped with a needle valve. It shall have a variable orifice to adjust the height of the flame. The barrel of the burner shall be at an angle of 25 degrees from the vertical. The burner may be equipped with an adjustable stop collar so that it may be positioned quickly under the test specimen. The burner shall be connected to the gas source by rubber or other flexible tubing.

(4) *Gas supply system.* There shall be a pressure regulator to furnish gas to the burner under a pressure of 103-259 mm. Hg. (2-5 lbs. per sq. in.) at the burner inlet. (Caution. Precautionary laboratory practices must be followed to prevent the leakage of methane. Methane is a flammable gas which can be explosive when mixed with air and exposed to a source of ignition, and can cause asphyxiation because of the lack of air.)

(5) *Gas.* The gas shall be at least 97 percent pure methane.

(6) *Hooks and weights.* Metal hooks and weights shall be used to produce a series of loads for char length determinations. Suitable metal hooks consist of No. 19 gauge steel wire, or equivalent, made from 7.6 cm. (3 in.) lengths of the wire, bent 1.3 cm. (0.5 in.) from one end to a 45-degree angle hook. The longer end of the wire is fastened around the neck of the weight to be used and the other in the lower end of each burned specimen to one side of the burned area. The requisite loads are given in Table 1.

TABLE 1.—Original fabric weight¹

Grams per square meter	Ounces per square yard	Loads	
		Grams	Pounds
Less than 101.....	Less than 3.0....	54.4	0.12
101 to 207.....	3.0 to 6.0.....	113.4	.25
207 to 338.....	6.0 to 10.0.....	226.8	.50
Greater than 338	Greater than 10.0	340.2	.75

¹ Weight of the original fabric containing no seams or trim is calculated from the weight of a specimen which has been conditioned for at least 8 hr at 21±1° C. (70±2° F.) and 65±2 percent relative humidity. Shorter conditioning times may be used if the change in weight of a specimen in successive weighings made at intervals of not less than 2 hr does not exceed 0.2 percent of the weight of the specimen.

(7) *Stopwatch.* A stopwatch or similar timing device shall be used to measure time to 0.1 second.

(8) *Scale.* A linear scale graduated in mm. or 0.1-inch divisions shall be used to measure char length.

(9) *Circulating air oven.* A forced circulation drying oven capable of maintaining the specimens at 105±2.8° C. (221±5° F.), shall be used to dry the

specimen while mounted in the specimen holders.²

(10) *Desiccator.* An air-tight and moisture-tight desiccating chamber shall be used for cooling mounted specimens after drying. Anhydrous silica gel with an indicator shall be used as the desiccant in the desiccating chamber. Replace or reactivate the desiccant when it becomes inactive.

(11) *Hood.* A hood or other suitable enclosure shall be used to provide a draft-protected environment surrounding the test chamber without restricting the availability of air. This enclosure shall have a fan or other suitable means for exhausting smoke and/or toxic gases produced by testing.

12. *Extinguishing plates.* Extinguishing plates shall be used to extinguish afterglow. The plates shall be metal, approximately 35.6 cm. x 5.1 cm. (14 x 2 in.) which fit within the opening of the specimen holder. The bottom plate shall be the thickness of the specimen holder and the top plate shall be at least 0.32 cm. (1/8 in.) thick. A suitable metal specimen mounting block may be used for the bottom plate.

(b) *Mounting and conditioning of specimens.*—(1) The specimens shall be placed in specimen holders so that the bottom edge of each specimen is even with the bottom of the specimen holder. Mount the specimen in as close to a flat configuration as possible. The sides of the specimen holder shall cover 1.9 cm. (3/4 in.) of the specimen width along each long edge of the specimen, and thus shall expose 5.1 cm. (2 in.) of the specimen width. The sides of the specimen holder shall be clamped with a sufficient number of clamps or shall be taped to prevent the specimen from being displaced during handling and testing. The specimens may be taped in the holders if the clamps fail to hold them. Place the mounted specimens in the drying oven in a manner that will permit free circulation of air at 105° C. (221° F.) around them for 30 minutes.³

(2) Remove the mounted specimens from the oven and place them in the desiccator for 30 minutes to cool. No more than five specimens shall be placed in

² Procedure 1(1.11) of ASTM D 2654-71 "Standard Methods of Test for moisture content and moisture regain of textile material," describes a satisfactory oven (1972 Book of ASTM Standards, Part 24, published by the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa. 19103).

³ If the specimens are moist when received, permit them to air dry in laboratory conditions prior to placement in the oven. A satisfactory preconditioning procedure may be found in ASTM D 1776-67, "Conditioning Textiles and Textile Products for Testing", (1972 Book of ASTM Standards, Part 24, published by the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.)

a desiccator at one time. Specimens shall remain in the desiccator no more than 60 minutes.

(c) *Testing.*—(1) *Burner adjustment.* With the hood fan turned off, use the needle valve to adjust the flame height of the burner to 3 ± 0.2 cm. (1 1/2 in.) above the highest point of the barrel of the burner. A suitable height indicator is shown in Engineering Drawing Number 6 and Figure 1.

(2) *Specimen burning and evaluation.* (i) One at a time, the mounted specimens shall be removed from the desiccator and suspended in the cabinet for testing. The cabinet door shall be closed and the burner flame impinged on the bottom edge of the specimen for 3.0 ± 0.2 seconds.⁴ Flame impingement is accomplished by moving the burner under the specimen for this length of time, and then removing it.

(ii) When flaming has ceased, remove the specimen from the cabinet, except for specimens which exhibit afterglow. If afterglow is evident, the specimen shall be removed from the cabinet 1 minute after the burner flame is impinged on the specimen if no flaming exists at that time. Upon removal from the cabinet, the afterglow shall be promptly extinguished. The afterglow shall be extinguished by placing the specimen while still in the specimen holder on the bottom extinguishing plate and immediately covering it with the top plate until all evidence of afterglow has ceased. After removing the specimen from the cabinet and, if appropriate, extinguishing afterglow, remove it from the holder and place it on a flat clean surface. Fold the specimen lengthwise along a line through the highest peak of the charred or melted area; crease the specimen firmly by hand. Unfold the specimen and insert the hook with the correct weight as shown in Table 1 in the specimen on one side of the charred area 6.4 mm. (1/4 in.) from the lower edge. Tear the specimen by grasping the other lower corner of the fabric and gently raising the specimen and weight clear of the supporting surface.⁵ Measure the char length as the distance from the end of the tear to the original lower edge of the specimen exposed to the flame. After testing each specimen, vent the hood and cabinet to remove the smoke and/or toxic gases.

⁴ If more than 30 seconds elapse between removal of a specimen from the desiccator and the initial flame impingement that specimen shall be reconditioned prior to testing.

⁵ A figure showing how this is done is given in AATCC Test method 34-1969, "Fire Resistance of Textile Fabrics," Technical Manual of the American Association of Textile Chemists and Colorists, Vol. 46, 1970, published by AATCC, P.O. Box 12215, Research Triangle Park, North Carolina 27709.

(3) *Report.* Report the value of char length, in centimeters (or inches), for each specimen, as well as the average char length for each set of five specimens.

(4) *Laundrying.* (i) The procedures described under 4 *Sampling and acceptance procedures*, 5(b) *Conditioning and mounting of specimens*, and 5 (c) *Testing*, shall be carried out on finished items (as produced or after one washing and drying) and after they have been washed and dried 50 times according to the laundrying procedure in AATCC Test Method 124-1969.¹ Items which do not withstand 50 laundryings may be tested at the end of their useful service life with prior approval of the Consumer Product Safety Commission.

(ii) Washing procedure 6.2(III) of AATCC Test Method 124-1969, with a water temperature of $60 \pm 2.8^\circ \text{C}$. ($140 \pm 5^\circ \text{F}$.) and drying procedure 6.3.2(B) of that Test method, shall be used. Maximum load shall be 3.64 kg. (8 lbs.) and may consist of any combination of test samples and dummy pieces. Alternately, a different number of times under another washing and drying procedure may be specified and used, if that procedure has previously been found to be equivalent by the Consumer Product Safety Commission. Such laundrying is not required of items which are not intended to be laundered, as determined

by the Consumer Product Safety Commission.

(iii) Items which are not susceptible to being laundered and are labeled "dry-clean only" shall be dry-cleaned by a procedure which has previously been found to be acceptable by the Consumer Product Safety Commission.

(iv) For the purpose of the issuance of a guarantee under Section 8 of the Act, finished sleepwear garments to be tested according to 4(c) *Garment sampling*, need not be laundered or dry-cleaned provided all fabrics used in making the garments (except trim) have been guaranteed by the fabric producer to be acceptable when tested according to 4(b) *Fabric sampling*.

6 *Labeling requirements.* All items of children's sleepwear shall be labeled with precautionary instructions to protect the items from agents or treatments which are known to cause significant deterioration of their flame resistance. If the item has been initially tested under 5(c)(4) *Laundrying*, after one washing and drying, it shall be labeled with instructions to wash before wearing. Such labels shall be permanent and otherwise in accordance with rules and regulations established by the Consumer Product Safety Commission.

Effective date. This Standard shall become effective on May 1, 1975.

(Sec. 4, 67 Stat. 112, as amended 81 Stat. 569-70 (15 U.S.C. 1193))

Dated: April 24, 1974.

SADY E. DUNN,
Secretary, Consumer Product
Safety Commission.

¹ Technical Manual of the American Association of Textile Chemists and Colorists, Vol. 46, 1970, published by AATCC, P.O. Box 12215, Research Triangle Park, North Carolina 27709.

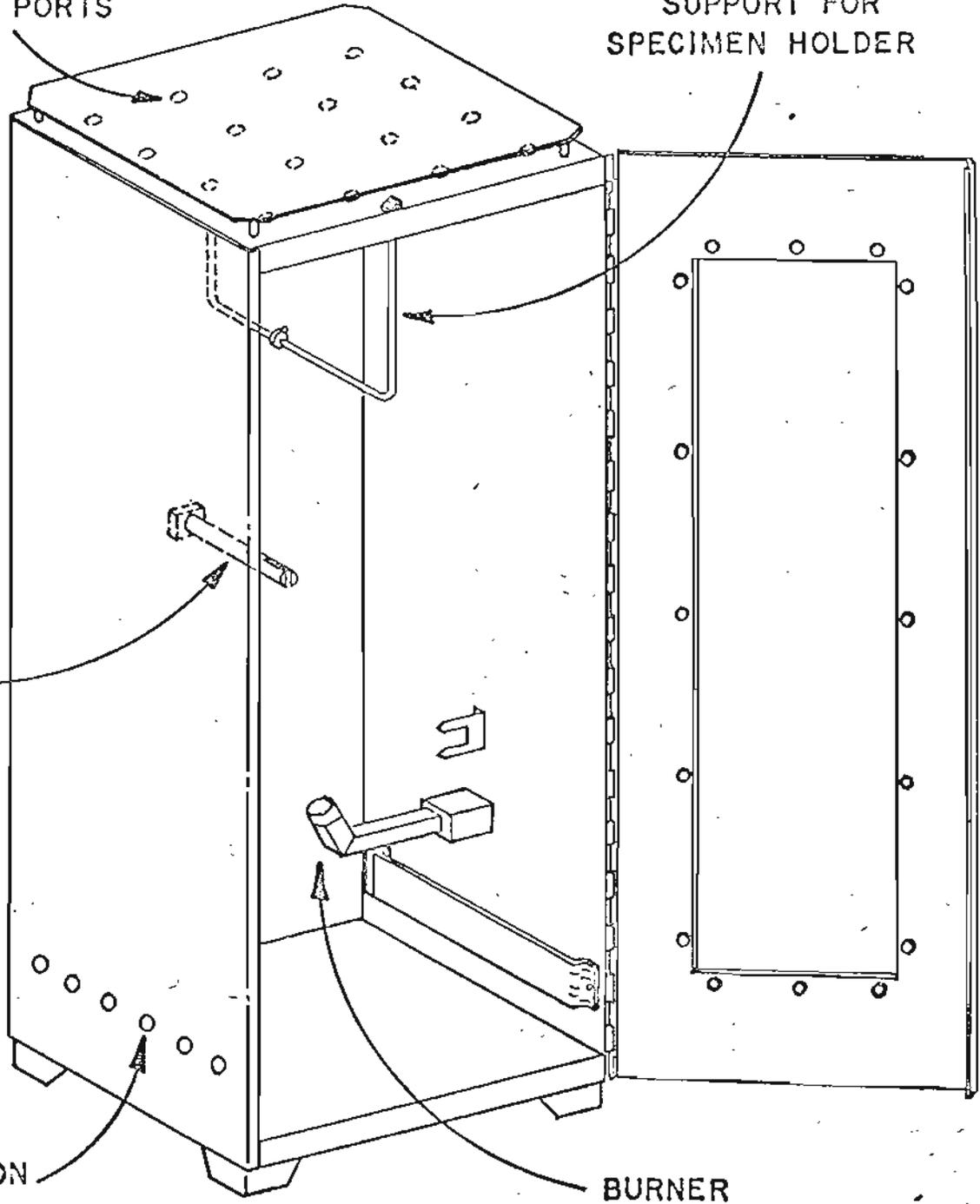
VENTILATION PORTS

SUPPORT FOR
SPECIMEN HOLDER

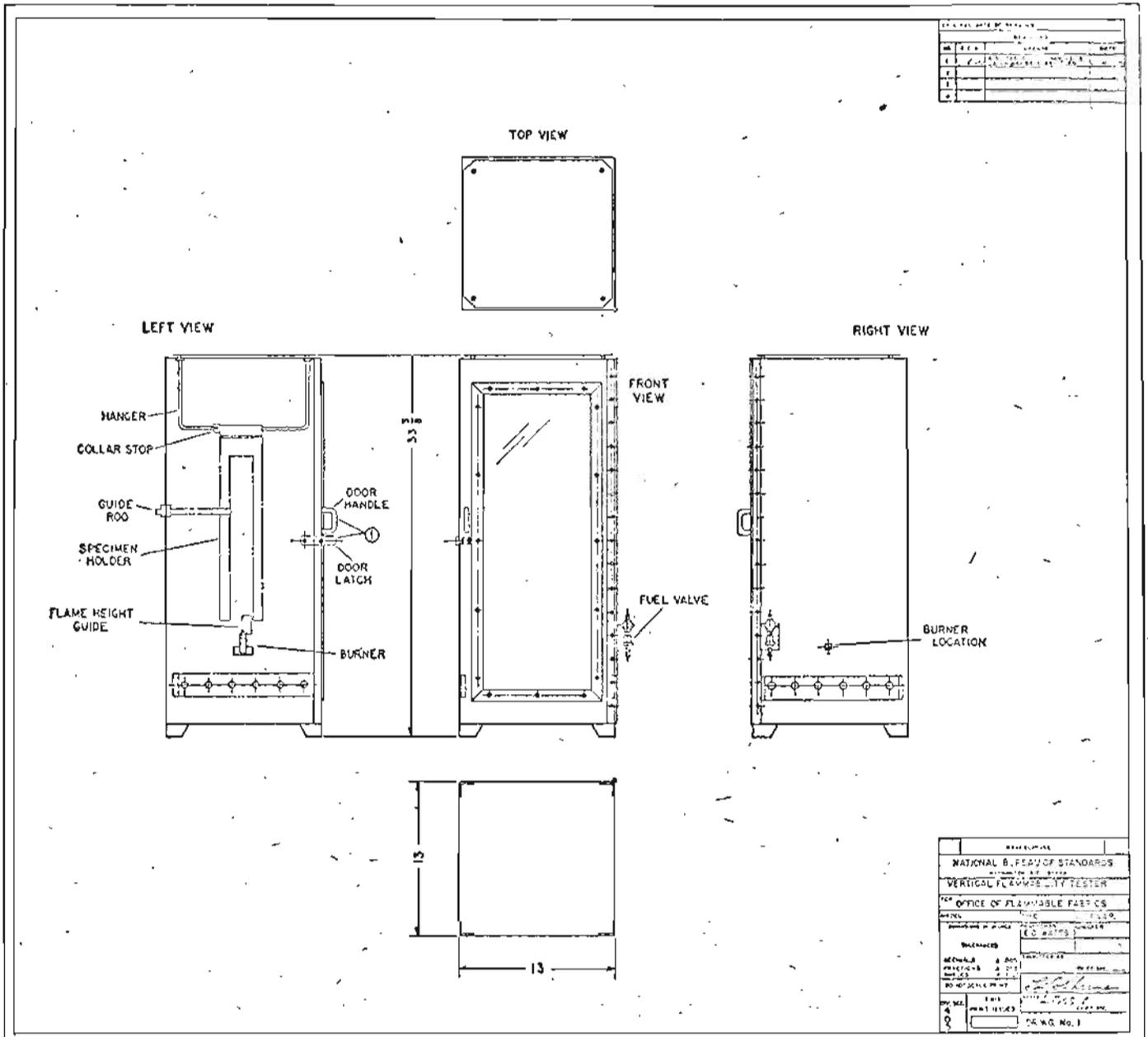
GUIDE FOR
SPECIMEN
HOLDER

VENTILATION
PORTS

BURNER



VERTICAL TEST CABINET
FIGURE 1

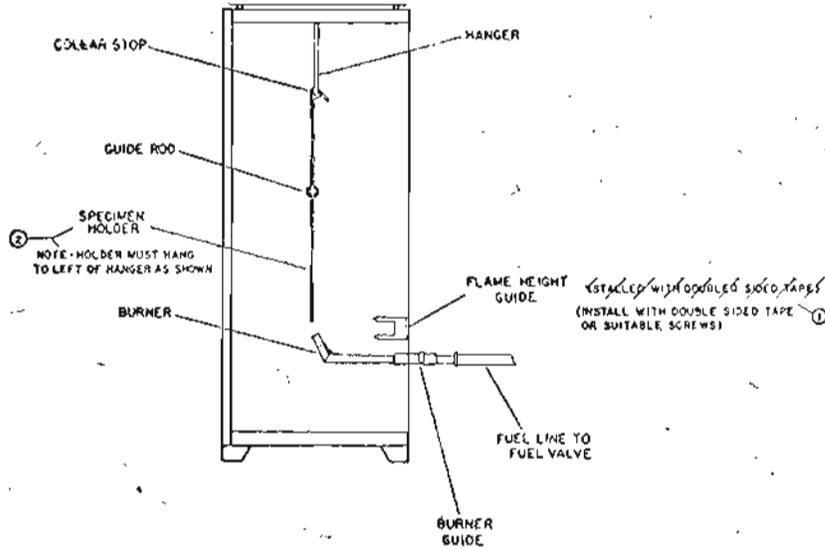


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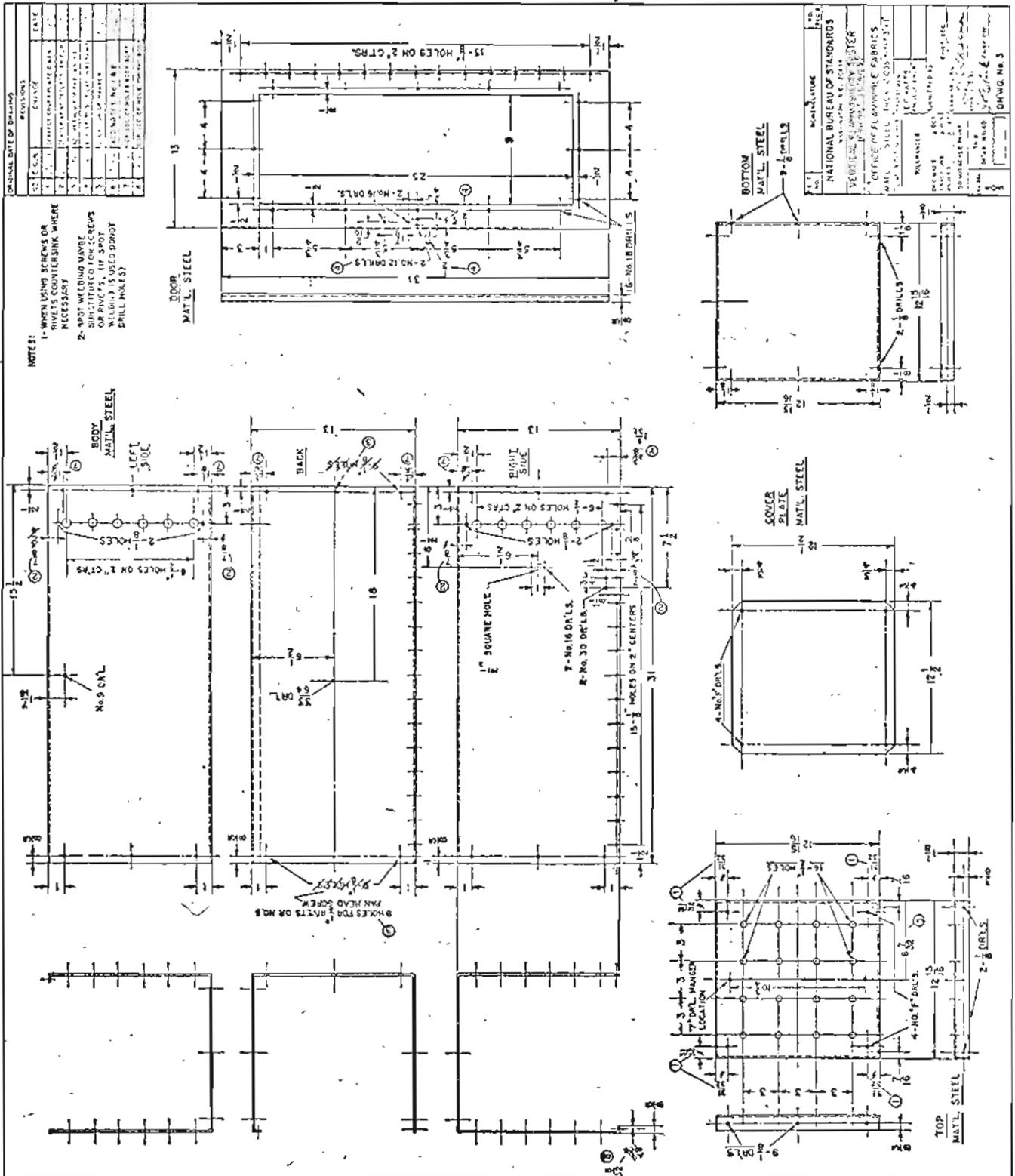
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VERTICAL FLAME PROPAGATION TESTER	
OFFICE OF FLAMMABLE FABRICS	
DATE	REV.
10/15/73	1
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CHECKED BY: ...	
DATE: ...	
SCALE: ...	
DC WG. NO. 1	

ORIGINAL DATE OF DRAWING			
REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	ISSUE FOR FABRICATE PARTS		
2	REVISED FOR CORRECTIONS		
3			
4			

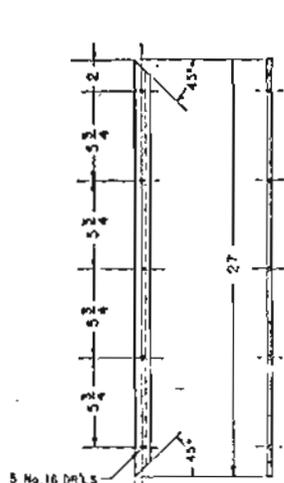
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(DOOR REMOVED)



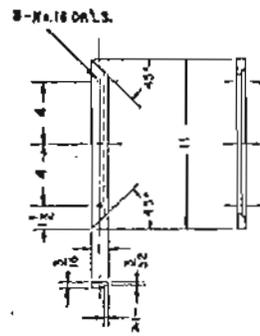
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OFFICE OF FLAMMABLE FABRICS	
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DESIGNED BY	DATE
MANUFACTURED BY	DATE
TESTED BY	DATE
APPROVED BY	DATE
DRWG. NO. 2	



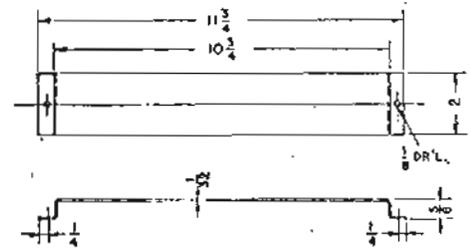
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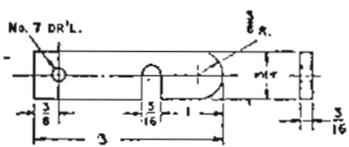
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2 REQ. ALUM.



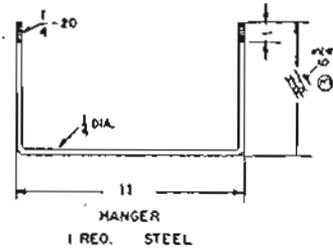
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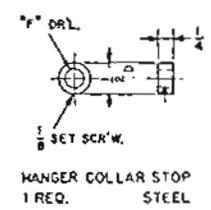
VENT DEFLECTING SHIELD
2 REQ. STEEL



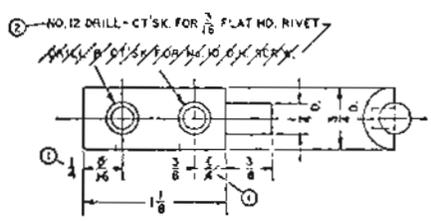
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DOOR LATCH
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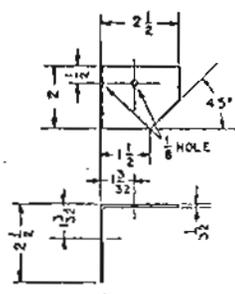
HANGER
1 REQ. STEEL



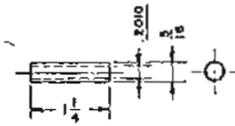
HANGER COLLAR STOP
1 REQ. STEEL



LATCH RETAINER
1 REQ. ALUM.



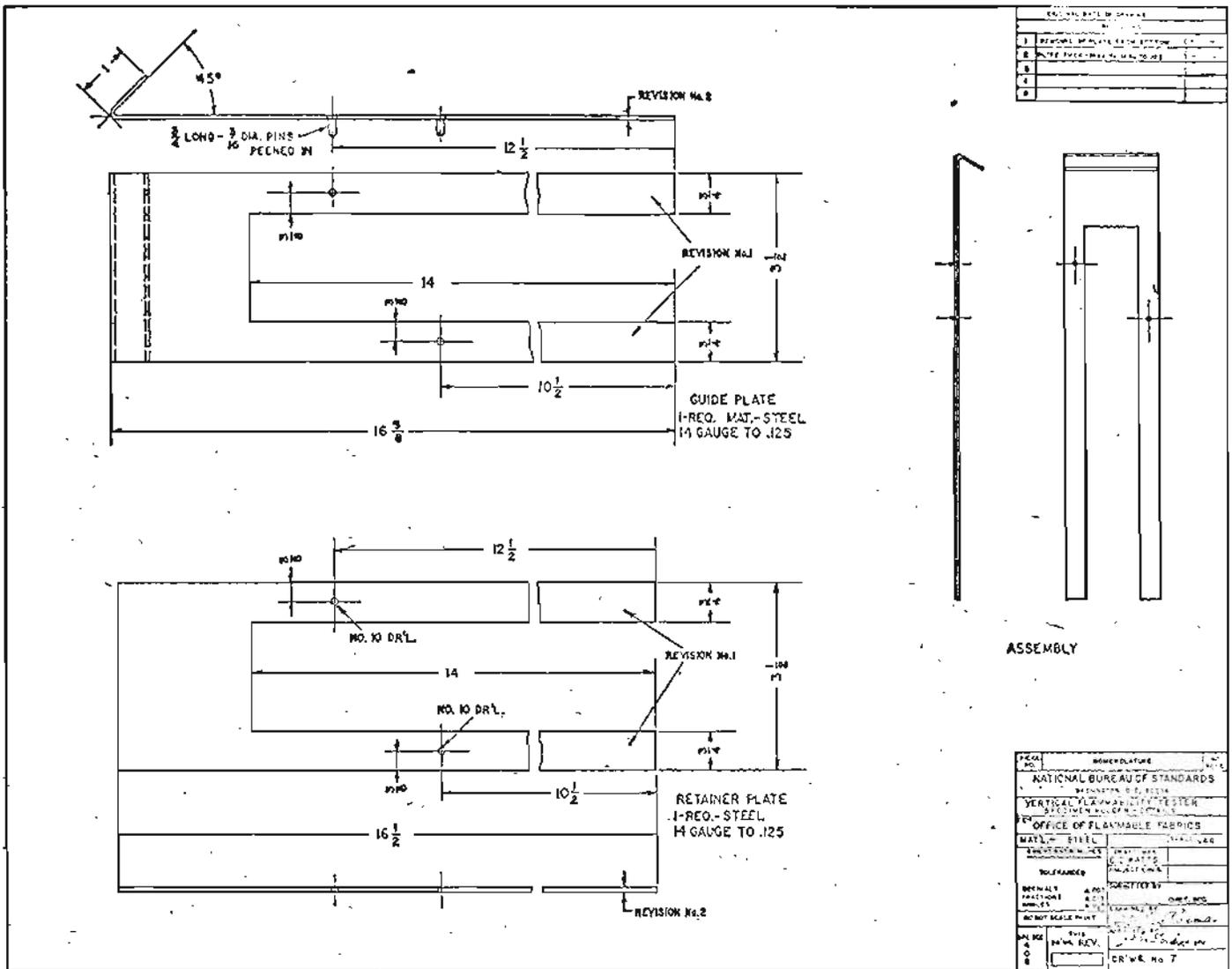
CABINET LEG
4 REQ. STEEL



TOP COVER SPACER
4 REQ. STEEL

REVISIONS	
NO.	DESCRIPTION
1	
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AREA	REVISIONS
NATIONAL BUREAU OF STANDARDS	
DEPARTMENT OF COMMERCE	
VERTICAL FLAMMABILITY TESTER	
OFFICE OF FLAMMABLE FABRICS	
MODEL	TYPE
DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
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DATE	BY
NO. OF ISSUES	ISSUED BY
1	DRWG. NO. 4



[FR Doc.74-9712 Filed 4-30-74;8:45 am]

CHILDREN'S SLEEPWEAR, SIZES 7 THROUGH 14 (FF 5-74)

Notice of Finding of Possible Need for Amendment to Flammability Standard and Institution of Proceedings

Immediately preceding this document in the FEDERAL REGISTER today, the Consumer Product Safety Commission has published the Standard for the Flammability of Children's Sleepwear, Sizes 7 through 14 (FF 5-74). That Standard sets forth testing requirements to determine the flammability of children's sleepwear in sizes 7 through 14 and fabric or related material intended or promoted for use in such sleepwear. The Standard was issued pursuant to the Flammable Fabrics Act (15 U.S.C. 1191, et seq.).

On the basis of investigations conducted under the authority of section 14 (a) and (b) of the Flammable Fabrics Act and other information which has come to the Commission's attention during the development of the Standard, the Commission hereby finds that amendments to FF 5-74 may be needed to protect the public against unreasonable risk of the occurrence of fire leading to death or personal injury, or property damage.

In addition, the Commission hereby institutes proceedings for the determination of appropriate amendments to FF 5-74. If the Commission determines amendments are necessary, the Commission intends that such amendments would become effective on the effective date of the Standard. In this notice, the Commission is seeking comments on four possible changes in the Standard.

Although the Commission is aware that the use of sampling plans in mandatory safety standards is a subject of considerable controversy, the Commission has not determined whether there is a possible need to amend the standard to eliminate the use of sampling plans in the Standard. The Commission held a public hearing on April 4 and 5, 1974, to obtain information and views concerning the use of sampling plans in mandatory standards issued by the Commission and in the enforcement of such standards. Should the Commission determine there is a possible need to amend the Standard in regard to the use of sampling plans, it will publish an additional notice in the FEDERAL REGISTER and will request comment at that time.

The possible amendments under consideration now, the reasons therefor, and specific requests for comments are as follows:

1. Affirmative labeling. The Commission believes that it may be necessary to amend the Standard to require items which comply with the Standard to bear affirmative labeling to enable consumers to distinguish complying from noncom-

plying items of children's sleepwear in sizes 7 through 14. For example, the label might state "Flame-retardant. This garment complies with U.S. Standard FF 5-74."

Through its experience with the application of other safety standards, the Commission is of the opinion that affirmative labeling should be required from the effective date of the Standard until stocks of noncomplying items can reasonably be expected to be exhausted, in order to eliminate confusion in the marketplace.

The Commission is seeking comments and views as to the necessity and feasibility for requiring affirmative labeling on complying garments and views as to the length of time such labeling should be required after the effective date of the Standard.

2. Application of the Standard. The Standard applies to all items of children's sleepwear in sizes 7 through 14 that are manufactured on or after the effective date of the Standard. On the basis of experience in enforcing other Standards, the Commission believes that the term "manufacture" should be defined to clarify which items of children's sleepwear in the production/distribution chain on the effective date of the Standard must comply with the Standard. The Commission wishes to clarify when the manufacturing process ends so that all affected parties will know which items are subject to the Standard.

The Commission is seeking views as to the necessity for defining the term "manufacture" and is seeking suggested definitions of the term as it is used in the Standard. For example, the Commission is seeking views as to whether the manufacturing process ends after (a) items are constructed, (b) labels are affixed, (c) items are packaged, or (d) at some other time.

3. Clarification of exemption. Section 4(b) of the Flammable Fabrics Act provides that products, fabrics, or related material subject to a Standard, which are in inventory or with the trade as of the effective date of the Standard, are exempt from the Standard, except that the exemption may be limited or withdrawn if the Commission finds any such items are so highly flammable as to be dangerous when used by consumers for the purpose for which they are intended. The Commission wishes to clarify, for the purposes of the Standard, at what time items, particularly imported items, are to be considered "in inventory or with the trade."

The Commission is seeking views as to the time items of children's sleepwear in sizes 7 through 14 are "in inventory or with the trade." For example, the Commission is seeking views whether imported goods are "in inventory or with the trade" when (a) they are ordered,

(b) they are shipped, (c) they are received, or (d) at some other time. The Commission is also seeking views as to whether, or in what circumstances, the exemption should be limited.

4. Testing exceptions. The Standard requires testing to be conducted under oven-dry conditions. A number of commenters have informed the Commission that they believe that testing under these conditions precludes the use of wool and certain other materials for children's sleepwear. It is claimed that these materials are not unduly hazardous and that they should be allowed to be used for children's sleepwear, without testing under oven-dry conditions.

The Commission believes that it may be necessary to amend the Standard to allow, in special cases, an exception to testing under oven-dry conditions. The Commission believes it would be appropriate to require applicants for exceptions to state the relative humidity at which they plan to test items pursuant to the Standard. However, the Commission would establish a maximum relative humidity for testing under exceptions. For enforcement purposes, whenever exceptions have been allowed, the Commission would test according to the provisions of the exceptions which have been granted.

The Commission seeks comment as to the feasibility and necessity for allowing exceptions to testing under oven-dry conditions, suggestions as to defining in what circumstances exceptions should be allowed, and comment as to the maximum relative humidity which should be allowed for testing under exceptions.

Interested persons are invited to submit, on or before May 31, 1974, written comments regarding the preceding possible amendments. All materials considered relevant to any statement of fact or argument should be submitted with such written comments. Comments and any accompanying material should be submitted, preferably in five copies, to the Secretary, Consumer Product Safety Commission, Washington D.C. 20207.

Received comments may be seen in the Office of the Secretary, Room 1025, 1750 K Street N.W., Washington, D.C., during working hours, Monday through Friday.

The Consumer Product Safety Commission takes this action pursuant to section 4(a) of the Flammable Fabrics Act, as amended (15 U.S.C. 1193(a)), sections 7.5 and 7.6 of the Flammable Fabrics Act Procedures (15 CFR Part 7), and section 30(b) of the Consumer Product Safety Act (15 U.S.C. 2079(b)).

Dated: April 24, 1974.

SADYE E. DUNN,
Secretary, Consumer Product
Safety Commission.

(FR Doc.74-9711 Filed 4-30-74;8:45 am)



U.S. DEPARTMENT OF COMMERCE
National Bureau of Standards
Washington, D.C. 20234

June 13, 1974

Mr. ~~Robert~~ Robert C. McGuire
Program Manager
Research and Development Service
Federal Aviation Administration
2100 Second Street, SW.
Washington, D.C. 20591

Dear Bob:

Enclosed is a copy of FF 5-74, the Standard for the Flammability of Children's Sleepwear, Sizes 7 Through 14. Like the 5903 Test, it is vertical, the specimens are suspended in frames, and the ignition source is a gas burner. However, in FF 5-74, the gas burner barrel is inclined to prevent melt drip from; e.g., nylon, polyester, or polypropylene fabrics from clogging the barrel; the specimen suspension system has been changed, for easier operation; an oven drying step, followed by cooling the specimens in a desiccator, has been added (this is operationally easier than conditioning at 70° F. and 50% RH, though it results in more severe conditions); the criterion is char length rather than burn length; the test covers both fabrics and garments; and the 3-second ignition time was chosen because some fabrics ignite at this exposure which do not ignite at 12 seconds. There are a few additional, minor differences between the tests but in general, the same materials will pass both tests.

A large part of the textile and garment industry is familiar with FF 5-74 and its similar but somewhat more severe predecessor, DOC FF 3-71, and the test equipment is available in many plants and testing laboratories. We doubt that the 5903 procedure is similarly familiar to the fabric and garment trade, and that the equipment is as widely

available. From this point of view, use of FF 5-74 may be preferable to 5903 in your first generation regulations, as discussed during our recent meeting.

Thank you for the opportunity to participate in your discussions, and I am looking forward to your continuing cooperation.

Sincerely,



John F. Krasny
Program for Fire Prevention--
Products
Fire Technology Division

Enclosure

cc: H. Branting (w/enclosure) ✓