

**CONSUMER PRODUCT SAFETY
COMMISSION****16 CFR Part 1210****Safety Standard for Cigarette Lighters****AGENCY:** Consumer Product Safety Commission.**ACTION:** Final rule.

SUMMARY: Under the Consumer Product Safety Act, the Commission issues a safety standard that requires disposable and novelty lighters, as those terms are defined in the standard, to meet specified requirements for child resistance. The requirements are intended to reduce the risk of the injuries and deaths that occur from fires started by children under the age of 5 playing with cigarette lighters. The standard also includes labeling, testing, recordkeeping, reporting, and stockpiling requirements for manufacturers and importers.

DATES: The standard applies to all disposable and novelty lighters manufactured in the United States or imported on or after July 12, 1994.

FOR FURTHER INFORMATION CONTACT: Michael Bogumill, Division of Regulatory Management, Office of Compliance and Enforcement, Consumer Product Safety Commission, Washington, DC 20207; telephone (301)504-0400.

SUPPLEMENTARY INFORMATION:

I. Background

Introduction. The Commission voted 3-0 to issue this rule to require disposable and novelty lighters, as defined in the rule, to meet specified child-resistance requirements. Chairman Jacqueline Jones-Smith, Commissioner Carol Dawson, and Commissioner Mary Call each issued a separate statement concerning this decision; copies of these statements are available from the Office of the Secretary.

The product: lighters. There are two common types of fuel and three basic operating methods among the various models of lighters available to consumers. In the most widely used operating method, a flint and spark wheel ignite a jet of butane gas (or, rarely, a propane gas mixture) released by a thumb-operated valve-and-lever assembly; this "roll and press" method has been predominant among disposable pocket lighters since their general introduction in the early 1960's. In a past variation of this method, a push-button mechanism was used to roll the wheel and release the gas with a single motion; this variant is commonly known as a "ratchet" lighter.

A second, more recently introduced operating method uses a push-button-activated piezoelectric ignition module to ignite the (typically butane) gas without mechanical spark generation. A past variation of this method used a touch-sensitive light beam circuit for activation.

In these first two methods, the flame is extinguished when the lever or push button is released and the flow of gas is interrupted.

In a third operating method, a flint and spark wheel ignites liquid fuel (typically naphtha) drawn through a wick; these may be operated by rolling the spark wheel or, less commonly, by means of a mechanical push button. Liquid-fuel lighters may have a cap or other means of shutting off the fuel or oxygen supply.

Petition and ANPR. In April 1985, Ms. Diane Denton, a nurse at Kosair Children's Hospital in Louisville, Kentucky, petitioned the Commission (Petition No. 85-2) to require that disposable butane lighters be child resistant. Information available to the Commission at the time it received the petition indicated that residential fires started by children playing with cigarette lighters claimed an estimated 140 lives each year. Information available in 1985 indicated that children younger than 5 years old were the principal victims of fires set by child play, accounting for 125 of the 140 deaths, but the information did not establish whether children younger than 5 were also the principal operators of the lighters involved in the fires. Additionally, the types of cigarette lighters involved could not be identified. Information about the patterns of how children used lighters that could indicate how the products might be changed to make them child resistant was also not available.

During 1986 and 1987, a field study was conducted by the Commission with the help of fire departments around the United States. Two hundred seventy-seven fires involving identified lighters and child play were investigated. Ninety-six percent of the lighters involved in the incidents were disposable butane models.

Most of the children who operated the lighters in the child-play incidents were less than 5 years old, primarily ages 3 and 4. The most common method of operation by children was with two hands, using one hand to steady the lighter and the thumb or index finger of the other hand to roll the wheel and press the fuel lever.

In 1987, the Commission contracted with COMSIS Corporation to develop strategies for improving the child

resistance of cigarette lighters and to develop a draft test protocol for evaluating child resistance. The test protocol recommended by COMSIS was based on the testing procedure for child-resistant packaging in the Poison Prevention Packaging Act Regulations at 16 CFR 1700.20. The protocol included a test using panels of children to determine the child resistance of cigarette lighters and a test using panels of adults to determine the ease of operation of the lighters by adults. A report, "Recommendations for Evaluation of Cigarette Lighter Child-Resistance," was provided by COMSIS in June 1988.

When testing whether children can operate a cigarette lighter, a "surrogate" lighter without fuel that does not produce a flame, but that produces an audible or visible signal when operated in a manner that would produce a flame in an ordinary lighter, must be used to ensure the safety of the children. One type of surrogate lighter was developed by the Commission's Engineering Sciences Laboratory for use in a pilot test. This surrogate lighter consists of a small radio transmitter, which is located inside the lighter body, and a separate receiver that is capable of receiving the transmitted signal up to 30 feet from the lighter. When the signal is received, a buzzer sounds and a small light shines. ("Development of the Surrogate Lighter", R. Reichel and W. Stratton, May 1988.)

On December 31, 1987, the Commission voted to grant the petition. At the same time, the Commission voted to publish an advance notice of proposed rulemaking ("ANPR") for child-resistant cigarette lighters and to expand the project to consider whether all lighters should be covered, rather than just disposable lighters. The ANPR was published in the *Federal Register* on March 3, 1988, 53 FR 6833. The ANPR stated that the Commission was considering a number of alternatives that would prevent or reduce the deaths and injuries caused by children playing with cigarette lighters. The ANPR also stated that the Commission would consider establishing performance requirements for cigarette lighters, either under sections 7 and 9 of the Consumer Product Safety Act ("CPSA"), 15 U.S.C. 2056, 2058, section 2(q)(1)(B) of the Federal Hazardous Substances Act ("FHSA"), 15 U.S.C. 1261(q)(1)(B), or sections 3 and 5 of the Poison Prevention Packaging Act ("PPPA"), 15 U.S.C. 1472, 1474. The Commission also said it would consider the possibility that the voluntary standard for cigarette lighters, ASTM F400-85, could be revised to include performance

requirements to make cigarette lighters resistant to operation by children or to require that lighters be marked with additional or revised warnings to keep these products out of the hands of children. Finally, the Commission stated that it would consider requirements for labeling cigarette lighters to warn adults to keep these products out of the hands of children.

The Commission received submissions from 13 commenters in response to the ANPR that was published in March 1988. In addition, some late submissions were received that were considered in the same manner as comments on the ANPR. The commenters raised the following major issues:

1. The need for a mandatory standard,
2. The relative risk of matches vs. lighters,
3. Alternative solutions to the problem,
4. The scope of the standard, and
5. Human factors issues.

The Commission's views on the major issues presented by the comments on the ANPR were explained in the preamble to the proposed rule. 57 FR 36932, 36936. A number of the same issues were also raised in the comments on the proposed rule, discussed below in Section VI of this notice.

Background of proposed rule. In September 1988, the Commission contracted with Perritt Laboratories, Inc., to conduct a pilot test of the draft protocol. The pilot test results indicated that the child and adult protocols recommended by COMSIS were suitable procedures for evaluating child-resistant lighters. ("Results of the Pilot Test of the Adult and Child Protocols for Testing Child-Resistant Cigarette Lighters". B.J. Jacobson, September 1, 1989.)

Subsequent to the pilot test, the staff stopped working on an adult test protocol. The Commission concludes that a mandatory performance test is not needed to assure that adults are able to operate child-resistant lighters. The Commission believes that the lighter manufacturers themselves will adequately ensure ease of use by adults so that their products will not be at a competitive disadvantage.

Baseline testing was conducted in 1989 and 1990 to determine the extent to which currently-marketed lighters can be operated by children and to support the establishment of an appropriate acceptance criterion for child-resistant lighters. The surrogate lighters used for the baseline testing were designed and provided by lighter manufacturers who serve on ASTM Task Group F15.02, Safety Standards for Lighters. Data were collected using two

brands of roll-and-press lighters and two brands of push-button lighters. The proportion of children unable to operate currently available, non-child-resistant lighters was 55 percent for the roll and press lighters and 16 percent for the push-button lighters. When these results are weighted to reflect product usage, they indicate that the child resistance of "non-child-resistant" lighters is approximately 50 percent.

In January 1988, following the Commission's decision to grant petition PP 85-2, the Commission's staff wrote to ASTM's Task Group F15.02, Safety Standards for Lighters, requesting that they revise the current lighter standard to prohibit the design and marketing of lighters that are not child resistant. (Letter to Mr. Edward Lewiecki from Nicholas V. Marchica, January 22, 1988.)

In June of 1988, the ASTM Task Group formed a Technical Subcommittee to develop a voluntary requirement for child-resistant lighters. The first action by the Technical Subcommittee was a review of the protocol proposed by COMSIS. The protocol was reviewed at a meeting in July 1988, and a summary of the discussion and suggested changes were provided to the Commission's staff. (Edward M. Lewiecki memorandum to members of F15.02 Technical Subcommittee, July 30, 1988.)

The Technical Subcommittee began drafting a voluntary standard in September 1989, using the Commission's protocol as a base. Throughout the development of the test protocol, the staff worked closely with the Technical Subcommittee. The ASTM Task Group initially included an adult test protocol as an Appendix for advisory purposes. An adult test is not a requirement of the draft ASTM standard.

In July 1990, the Lighter Association Inc. requested that the Commission adopt the draft ASTM voluntary standard for child-resistant cigarette lighters as a mandatory consumer product safety standard under section 9 of the Consumer Product Safety Act. [86]¹ The Association endorses a mandatory standard because this would assure that all lighter manufacturers and importers will comply and because a mandatory federal standard would preempt state-by-state regulations addressing this risk. The Association represents manufacturers, importers,

and distributors of the majority of cigarette lighters sold in this country.

In March 1991, the members of ASTM Task Group F15.02 voted to suspend work on the voluntary standard and support the Commission's work on a mandatory standard. [124]

The Commission undertook tests to verify that the test results from the protocol are reproducible when the tests are conducted by different laboratories. (See CPSC staff report "Statistical Analysis of Non-Child-Resistant Roll and Press Cigarette Lighter Data," April 1992.) The CPSC's staff requested the cooperation of members of the ASTM Task Group F15.02 during their March 1990 meeting. One major lighter manufacturer and the Department of Consumer and Corporate Affairs of Canada offered to participate. The manufacturer completed a 50-child test and provided a report to the staff in July 1990. The results of those tests are consistent with the baseline testing conducted by the Commission. The initial testing in Canada was conducted in Montreal and Toronto; this testing was completed in December 1990. A preliminary analysis of the results of the Canadian testing indicated that the results of the tests in Montreal were consistent with the other results from the baseline testing and the tests by the manufacturer mentioned above. The tests from Toronto, however, showed that fewer of the children tested there were able to operate the surrogate lighters than would be expected from the previous test results and from the results of the Montreal tests.

A CPSC staff member went to observe some of the later testing in Toronto, and concluded that the testers there were not following the test protocol in the way that had been done for the baseline testing. In addition, the surrogate function of two lighters performed unreliably during this testing, and the lighters were returned to the manufacturer for repair. Because of these problems, the CPSC's staff concluded that the Toronto data should not be considered as part of the verification testing.

Because of the unexpected results from Toronto, the Canadian Government agreed to conduct additional tests there, using another contractor. Largely because of the need to determine that the test protocol for determining the child-resistance of cigarette lighters was repeatable and reproducible, the Commission voted in May 1991 to postpone a decision on whether to publish a proposed mandatory standard for child-resistant cigarette lighters until after receipt of the Toronto retest

¹Numbers in brackets refer to the number of a document in the List of Relevant Documents at the end of this notice.

results. The staff received the final test data on March 2, 1992.

The results for this second round of testing in Toronto were consistent with the data from other test locations when two activations of the surrogate lighter are used as the criterion for whether a child has successfully operated the lighter ($p=.097$). (The symbol "p" represents the chi-square probability in a maximum likelihood analysis of variance. A factor, such as location, has a significant effect on the rate of success if p is 0.05 or less.) When one activation of the lighter is used as the criterion, the variation, while only slightly greater, became statistically significant ($p=.043$).

These borderline results around $p=.05$ for one and two lighter activations led the staff to investigate the effect of tester variability on the successful operation of lighters by children. The staff found that the results of the Toronto retest were affected by one tester (out of six) who was especially adept at obtaining the children's cooperation. That tester, who conducted 30 percent of the tests, had an excessive effect on the success rate. If that tester is weighted as having conducted one-sixth (17 percent) of the Toronto tests, the results in Toronto would have been consistent with the data from other sites for either definition of success ($p=0.34$ and $p=0.12$). As a result of the analysis of the verification testing data, changes were made in the proposed testing protocol so that future test results would be consistent. The changes include requiring panels of 100 children instead of panels of 50 children and requiring the testers to test approximately equal numbers of children (20 +or- 2 children each for 5 testers and 17 +or- 2 children each for 6 testers).

The verification tests show that the age and sex of the child being tested are significant factors affecting the likelihood of success, but that whether the child comes from a home with a smoker who uses a cigarette lighter is not a significant factor affecting the results. Therefore, the previous requirement in the draft test protocol that a minimum number of children be from homes with smokers who use cigarette lighters was deleted in the proposed rule.

Proposed rule. After the results of the Toronto retest had been analyzed and appropriate adjustments made to the draft test procedure, the Commission proposed a safety standard for lighters. 57 FR 36932 (August 17, 1992). The comments received on the proposal and the Commission's responses to those comments are discussed in Section VI of this notice.

The proposal discussed the general results of some tests of child-resistant lighters that had been performed prior to that time, but no formal report of such tests was then available. When the report was prepared, the Commission published a notice in the *Federal Register* of February 16, 1993, announcing the availability of the report and providing an opportunity for written comment on the report until March 18, 1993. 58 FR 8565. No additional comments were received.

II. Summary and Discussion of the Final Rule

A summary of the rule being issued and its statutory authorities is given below. Where there are differences between the final rule and the proposed rule, these are noted in the summary or discussed in the Commission's responses to comments received on the proposal. See Section VI of this notice.

A. Requirements for Lighters

1. Statutory Authority

In the ANPR of March 3, 1988, the Commission cited provisions of the CPSA, the FHSA, and the PPPA as authority for this rulemaking proceeding. Section 30(d) of the CPSA, 15 U.S.C. 2079(d), provides that a risk of injury associated with a consumer product which could be eliminated or reduced to a sufficient extent by action under the FHSA or the PPPA may be regulated under the CPSA only if the Commission, by rule, finds that it is in the public interest to regulate such a risk of injury under the CPSA. At the time of publication of the proposed safety standard, the Commission published a rule under the provisions of section 30(d) to express the Commission's finding that if regulatory action is needed to address the risk of injury associated with cigarette lighters that can be operated by children, it would be in the public interest to regulate such risks under the CPSA rather than the FHSA or the PPPA. Elsewhere in this issue of the *Federal Register*, the Commission is publishing its final rule under section 30(d) of the CPSA finding that it is in the public interest to regulate risks of injury associated with lighters, that can be operated by children, under the CPSA.

A cigarette lighter is a "consumer product" as that term is defined by section 3(a)(1) of the CPSA, 15 U.S.C. 2052(a)(1), because it is an article that is produced or distributed for sale to consumers for use in or around a household, in recreation, and in similar places and activities. Sections 7 and 9 of the CPSA, 15 U.S.C. 2056, 2058,

authorize the Commission to issue a consumer product safety standard consisting of labeling or performance requirements for a consumer product if those requirements are "reasonably necessary to prevent or reduce an unreasonable risk of injury" associated with a consumer product.

2. Estimates of Benefits

The standard issued below will increase the minimum allowable child resistance of lighters to 85 percent. This constitutes at least a 70 percent improvement over the preexisting degree of child resistance (the new 85 percent minimum minus the existing 15 percent minimum equals 70 percent additional child resistance, which when divided by the original 15 percent child resistance gives a 467 percent improvement).

Because large numbers of child-resistant lighters have not been on the market (and for other reasons discussed below), the presently-available fire-incident data do not establish how closely the results of the child testing correlate to the prevention of fires in the home. The Commission concludes, however, that the results of the child-panel tests provide a reasonable approximation of the ability of children to operate lighters in the home, which in turn should be directly reflected in the incidence of fires started by children with lighters.

The Commission reaches this conclusion for the following reasons. First, there has been no suggestion of another test that would both (1) more accurately reflect the likelihood that children will start house fires with lighters and (2) result in a lower estimate of benefits for a standard using that test.

Second, because large numbers of child-resistant lighters have not been on the market for a long period of time, fire-incident data cannot be analyzed to provide an empirical corroboration of the correlation between child-test results and child-play house fires. It is not feasible for the Commission to conduct a test to demonstrate this correlation. Such a test would require that the Commission (1) distribute a huge number of child-resistant lighters to a representative sample of lighter users, (2) somehow ensure that the users used the child-resistant lighters in the same way they would if all disposable and novelty lighters were required to be child resistant, and (3) obtain information on the rate of fires started by children playing with the child-resistant lighters.

In addition, the accuracy of the estimate of benefits need not be great in

order to support the rule. Even if the benefits of the standard are only half what the child test results indicate, the benefits would have the prerequisite reasonable relationship to the costs. See Section IV of this notice, below.

Furthermore, the Commission's experience with a similar type of test for child resistance under the Poison Prevention Packaging Act of 1970 has shown reductions in the ingestion rate of a magnitude sufficient to justify this rule. For example, PPA regulations requiring child-resistant packaging for aspirin and oral prescription drugs became effective in 1972 and 1974, respectively. A Commission staff analysis of these requirements found that CR packaging reduced the aspirin-related child death rate by about 0.6-0.9 deaths per million children under age 5, and reduced the oral prescription drug-related death rate by about 1.2-1.3 deaths per million children under age 5. ("The Safety Effects of Child-Resistant Closures," CPSC Directorate for Economic Analysis, G. Rodgers, May 1992.)

The number of deaths of children under age 5 due to all household chemicals has declined 81 percent since 1972. (1992 National Poison Prevention Week Editor's Fact Sheet, Q. No. 12.) The number of deaths of children under age 5 from ingestion of aspirin products has declined 93 percent over the same period. *Id.* Although not all of these declines may be due to child-resistant packaging, it seems likely that much of the decline is due to such packaging.

The child-resistance requirements being issued for lighters in this notice may be even more effective than child-resistant packaging, because prescription products can be ordered in non-child-resistant packaging and manufacturers of nonprescription products subject to PPA requirements can package one size of the product in non-child-resistant packaging pursuant to 15 U.S.C. 1473. In contrast, there are no exceptions from child resistance

provided for the disposable and novelty lighters subject to the rule issued in this notice.

Furthermore, users often render child-resistant packaging ineffective by leaving the cap off or loose, in order to make it easier to obtain the substance in the package. In the case of cigarette lighters, however, the rule requires the child-resistant feature to reset after every operation of the lighter. Therefore, the child-resistance requirements for lighters may be even more effective than the similar requirements for child-resistant packaging for this reason also.

For the reasons discussed above, the Commission concludes that the results of the child tests will provide a reasonable approximation of the extent to which a lighter will be used by children to start house fires and demonstrate that the benefits to be obtained by the rule will have a reasonable relationship to the costs imposed by the rule.

3. Summary of Provisions

The standard applies to "disposable" lighters and "novelty" lighters. The standard defines disposable lighters as those that either (1) are nonrefillable with fuel or (2) use butane or similar fuels and have a Customs Valuation or ex-factory price under \$2. Novelty lighters are defined as those that have entertaining audio or visual effects, or that depict (by logos, decals, art work, etc.) or resemble in physical form or function articles commonly recognized as appealing to or intended for use by children under 5 years of age. This includes, but is not limited to, lighters that depict or resemble cartoon characters, toys, guns, watches, musical instruments, vehicles, toy animals, food, or beverages, or that play musical notes or have flashing lights or other entertaining features.

The rule provides that lighters shall be capable of resisting operation by at least 85 percent of children in a specified test. The test involves giving

the children 5 minutes to attempt to successfully operate the lighter. If they do not successfully operate the lighter within that time, they are given two visual demonstrations of the operation of the lighter, followed by another 5-minute period during which they are to attempt to operate the lighter.

If more than 15 percent of the children successfully operate the lighter, it fails the acceptance criterion. This percentage is applied to 200 children, but it may not be necessary to test that many. The test provides that panels of 100 children shall be tested sequentially. As explained below, depending on the results with the first panel, it may be possible to demonstrate statistically with the results from one panel that 85 percent of the 200 children would be unable to operate the lighter. The children must live in the United States, and the test must be conducted in the United States. (In the proposal, it would have been possible to use children from another country if tests of one child-resistant lighter design in the United States and in the other country gave results that are not significantly different at $p=.05$.)

The pass/fail criteria for the first test panel were designed so that, if the probability of operating the lighter is 10 percent or less, the lighter will be accepted as child-resistant 95 percent of the time. If the probability of operating the lighter is greater than 20 percent, the cigarette lighter will be rejected 95 percent of the time. If the lighter is not accepted or rejected under these probabilities for the first panel, the second panel is tested. Accordingly, in the first test panel of 100 children, the lighter passes if 10 or fewer children operate it, the lighter fails if 19 or more children operate it, and testing continues if 11 to 18 children operate it.

Table 1 gives the pass, continue to test, and fail criteria for sequential testing.

Table 1.—Sequential Testing Criteria

Test panel	Cumulative Number of Children	Successful Lighter Operations		
		Pass	Continue	Fail
1	100	0-10	11-18	19 or more
1	200	11-30	—	31 or more

Thus, the child test protocol specifies the use of 100 children initially, and, depending on the results, it would be determined that the lighter is either child resistant or not child resistant or

that further testing, with a total of 200 children, is needed.

The protocol also divides the children on each child-test panel into 3 age groups, 42-44, 45-48, and 49-51 months old, with approximately 30, 40, and 30

percent of the children in each age group, respectively. Each age group consists of approximately two-thirds boys and one-third girls.

Because using an operable lighter in these tests could expose children to a

risk of injury from fire, the child tests use "surrogate lighters," which are lighters that are without fuel and that produce an audible signal or visible signal when operated in each manner that would create a flame in the lighters that they represent. (The Commission recommends that if a visual signal is used, it be located away from the lighter. If the visible signal is not away from the lighter, when the visible signal is demonstrated to the children, as required at the beginning of the test, the lighter's operation may also be demonstrated. Although a visible signal that is not remote from the lighter is permissible, it could increase the number of children who can operate the lighter in the test, because the children in effect will get an additional demonstration of the lighter's operation at the beginning of the first 5-minute test period.) A successful operation in the test is defined as one operation of the surrogate signal, of any time duration, during the 10-minute test. Because of the variability in the success rates related to different testers in the verification test data, the test procedures include considerable detail on how to interact with the children.

Surrogate lighters must approximate the appearance, size, shape, and weight of the lighter intended for use and must be identical in all other factors that affect child resistance (including operation and the force(s) required to operate the lighter) as the lighter intended for use.

The child-resistant features of the lighter must reset automatically after each operation of the ignition mechanism and be effective for the reasonably expected life of the lighter.

B. Certification, Recordkeeping, and Reporting Requirements

1. Statutory Authority

Section 14(a) of the CPSA, 15 U.S.C. 2063(a), requires each manufacturer of a consumer product that is subject to a consumer product safety standard to issue a certificate of compliance stating that the product conforms to all applicable consumer product safety standards. The statute specifies that such certificates shall accompany the product or shall otherwise be furnished to any distributor or retailer to whom the product is delivered. Section 14(c) of the CPSA requires that the certificate of compliance must be based upon a test of each product or a "reasonable testing program." Section 14(b) of the CPSA authorizes the Commission to issue rules to prescribe a reasonable testing program. Section 14(c) of the CPSA authorizes the Commission to issue

rules requiring labels containing the date and place of manufacture and a suitable identification of the manufacturer, unless the product bears a private label, in which case the label shall identify the private labeler and contain a code mark that will permit the seller of the product to identify the manufacturer upon the request of the purchaser. Section 16(b) of the CPSA, 15 U.S.C. 2065(b), authorizes the Commission to issue rules requiring manufacturers to maintain records of the testing specified in any rule prescribing a reasonable testing program.

In addition to the authority in section 14 of the CPSA, the Commission has used the authority of sections 16(b), 17(g), and 27(e) of the CPSA, 15 U.S.C. 2065(b), 2066(g), and 2076(e). Section 16(b) gives the Commission the authority to require manufacturers, importers, and private labelers to establish and maintain such records, make such reports, and provide such information as may be necessary to determine compliance with rules prescribed under the CPSA. Section 17(g) allows the Commission to condition the importation of a product on the manufacturer's (including importer's) compliance with the recordkeeping requirements and with the Commission's reporting rules relating to such requirements. Section 27(e) authorizes the Commission to require manufacturers to provide to the Commission such performance and technical data related to performance and safety as may be required to carry out the purposes of the CPSA, which are specified at section 2(b) of the CPSA, 15 U.S.C. 2051(b). For the provisions under section 27(e), the Commission finds that the required information is performance and technical data and that its provision is required to protect the public against unreasonable risks of injury.

The recordkeeping and reporting requirements will allow the Commission's staff to ensure that lighters comply with the standard and will provide the Commission with important performance and technical data about product designs on the market.

2. Summary of Provisions

The cigarette lighter standard requires that cigarette lighters resist operation by children. The standard requires that surrogates of lighters subject to the standard be tested by children in order to determine that the surrogates meet the child-resistance requirement. 16 CFR 1210.5. For these tests to be meaningful, the surrogates must be identical, in all characteristics that

affect child resistance, to the lighters that are produced for sale. It is, therefore, particularly important that manufacturers test surrogates, establish specifications, and maintain quality assurance programs to ensure that production lighters are identical in all crucial respects to the surrogates, within reasonable manufacturing tolerances.

The certification requirements include general requirements for certification, testing, recordkeeping, and reporting that are designed to ensure that manufacturers or importers (1) conduct tests with surrogate lighters, (2) develop reasonable specifications and manufacturing tolerances to ensure that production lighters are sufficiently identical to the surrogates, and (3) maintain those specifications and tolerances during production of their lighters. The Commission believes that these requirements reflect good engineering and manufacturing practice. Because the rule requires the manufacturer or importer of a cigarette lighter to issue the certificate of compliance, private labelers are exempted, pursuant to section 14(b) of the CPSA, from the requirement to issue a certificate. Private labelers must, however, ensure that any certificate that is provided with the product by the manufacturer or importer is provided to any distributor or retailer that receives the product directly from the private labeler.

The certification requirements will not only ensure that distributors and retailers will be aware that cigarette lighters comply with the standard but will also provide a mechanism for efficient monitoring and prompt enforcement of the requirements by the Commission. The provisions of the individual sections containing certification requirements are summarized below:

Section 1210.12 — *Certificate of Compliance*. This provision restates the requirement in section 14(a) of the CPSA that a certificate of compliance must accompany the product or be furnished to any distributor or retailer to whom the product is delivered by a manufacturer, importer, or private labeler. The provision also establishes labeling requirements and refers to the reporting and recordkeeping requirements described below. This section also summarizes the duties of parties subject to the regulation.

A certificate of compliance is required to accompany each shipping unit (for example, a case) of the product. This certificate is required to contain a statement that the product complies with the safety standard, the name and address of the manufacturer, importer,

or private labeler, the date(s) of manufacture, and, if it is not on the lighter, the address of the place of manufacture. Each lighter is required to bear a label, which may be in code, identifying the manufacturer or private labeler and identifying the time period, not to exceed 31 days, during which the lighter was manufactured.

Section 1210.13, .14 & .16 —

Certification testing. These provisions establish minimum requirements for the reasonable testing program and require that manufacturers and importers perform qualification testing using surrogate lighters, followed by reasonable production testing.

Corrective action or further testing must be undertaken when production testing indicates that lighters in a production interval may not comply with the standard. The Commission believes that this test scheme is consistent with normal manufacturing processes. The qualification testing and production testing required by this paragraph may be performed before the effective date of the standard.

Section 1210.15 — Specifications.

This provision requires that manufacturers, private labelers, and importers establish specifications for their cigarette lighters to ensure that the production lighters will be as child resistant as the surrogates used in the child-based qualification tests. This will enable the Commission to compare actual production lighters to the firm's specifications to ascertain that the production lighters are identical, within reasonable manufacturing tolerances, to the surrogate lighters in all aspects that affect child resistance. The Commission has found that these provisions are necessary to ensure compliance with the standard, and issues them under the authority of sections 14(b) and 16(b) of the CPSA.

Section 1210.17(a) — Recordkeeping requirements. This provision, authorized by sections 16(b) and 27(e) of the CPSA, requires that the manufacturer or importer maintain records in English of its testing and specifications and provide the Commission's staff with access to these records. This will allow the Commission to determine whether the lighters being manufactured are sufficiently identical to the surrogate lighters and whether adequate controls have been placed on the manufacturing process.

Most of the required records and the surrogate lighters that were tested must be kept in the United States and be accessible to the Commission's staff within 48 hours of a request. This is so these records may be reviewed quickly to determine whether lighters comply

with the standard, particularly where the lighters are being held by U. S. Customs. However, it may be convenient to maintain records of production testing at the production facility. Because many of the cigarette lighters subject to the standard are manufactured outside the United States, this provision allows these records to be kept outside the United States, so long as they can be provided to the Commission's staff within seven days of a request. The Commission may perform tests with the surrogate lighters in order to determine the accuracy of the records and the child resistance of the lighters.

The records and surrogate lighters are required to be kept for three years after the events to which they relate have ceased. Thus, records of qualification tests and surrogate specifications, and surrogate lighters, must be kept for three years after the production of that model has ceased, and records of production testing must be kept for three years after the date of testing.

Except for production records, records must be kept on paper, microfiche, or similar media that can be directly examined. Production records may be kept on these media or on computer tape or other retrievable media.

Section 1210.17(b) — Reporting. This section requires that the manufacturer or importer submit basic information about its product, and a prototype or production unit of the lighter model, at least 30 days prior to the initial importation or distribution in commerce of each model. This will make it easier to identify products that either do not comply with the standard or have not been properly certified. This will particularly assist the Commission and the U. S. Customs Service in recognizing noncomplying imports.

Section 1210.17(c) — Confidentiality.

The Commission recognizes that some of the recordkeeping and reporting requirements may require firms to provide information to the Commission that the firms view as trade secret or as other confidential commercial information. Under section 6(a)(2) of the CPSA, information in the possession of the Commission that contains or relates to a trade secret or other matter referred to in 18 U.S.C. 1905 or subject to 5 U.S.G. 552(b)(4) shall be considered confidential and shall not be disclosed. 15 U.S.C. 2055(a)(2). Under this section, and in accordance with 16 CFR 1015.18-1015.19, persons submitting information for which they desire confidential treatment must request that the information be considered exempt from disclosure. If the Commission's staff nevertheless determines that the information may be disclosed because it

is not confidential information, the person submitting the information will be given notice in writing of the staff's intention at least 10 working days before the information is released. This provision gives the submitter an opportunity to seek judicial review of the Commission's determination prior to release of the information. 16 CFR 1015.19; *see also*, 16 CFR part 1101.

C. Anti-Stockpiling Provision

1. Statutory Authority

Section 9(g)(2) of the CPSA, 15 U.S.C. 2058(g)(2), authorizes the Commission to issue rules prohibiting the stockpiling of products that are subject to a consumer product safety rule. Stockpiling means the manufacturing or importing of a product between the date of promulgation of the consumer product safety rule and its effective date at a rate that is established by the rule and is significantly greater than the rate at which such product was produced or imported during a base period ending before the promulgation of the consumer product safety rule. The rule includes a stockpiling provision in Subpart C.

2. Summary of Provision

Subpart C of the rule contains anti-stockpiling provisions of the standard that would limit the production or importation of noncomplying lighters between the promulgation of the rule and its effective date to 120 percent of each firm's rate during a base period; this base period could be any 1-year period of a firm's choosing during the 5 years prior to the publication date of the final rule. Noncomplying lighters manufactured in, or imported into, the United States before the promulgation date of the standard could be sold to consumers at any time without being affected by the stockpiling rule.

III. Effective Date

The rule shall become effective July 12, 1994. Lighters subject to the standard and manufactured in, or imported into, the United States on or after the effective date must comply. The 12-month period was selected in order to get child-resistant lighters into consumers' hands as quickly as reasonably possible, while allowing sufficient time for manufacturers and importers of most lighters to design, produce and import safer products. The 12-month period should also minimize any potential disruption that may occur among small importers of lighters subject to the standard. The potential effects on safety and on industry of this

and other effective dates are discussed in Sections IV-VI of this notice.

IV. Statutory Findings and Final Regulatory Analysis

A. Introduction

The rule is published under the authority of the CPSA. Section 9(f)(1) of the CPSA, 15 U.S.C. 2058(f)(1), requires the Commission, when issuing a final rule, to consider and make appropriate findings for inclusion in the rule regarding:

1. The degree and nature of the risk of injury the rule is designed to eliminate or reduce;
2. The approximate number of consumer products, or types or classes thereof, subject to such rule;
3. The need of the public for the consumer products subject to such rule, and the probable effect of such rule upon the utility, cost, or availability of such products to meet such need; and
4. Any means of achieving the objective of the order while minimizing adverse effects on competition or disruption or dislocation of manufacturing and other commercial practices consistent with the public health and safety. Because these findings are required to be in the final rule, they are included in § 1210.5 of the rule below.

Section 9(f)(2) of the CPSA, 15 U.S.C. 2058(f)(2), requires that the Commission publish a regulatory analysis containing:

1. A description of the potential benefits and potential costs of the rule, including any benefits or costs that cannot be quantified in monetary terms, and an identification of those likely to receive the benefits and bear the costs;
2. A description of any reasonable alternatives to the rule, together with a summary description of their potential costs and benefits, and a brief explanation of why such alternatives should not be published as a rule; and
3. A summary of any significant issues raised by the comments on the proposed rule's preliminary regulatory analysis, and a summary of the Commission's assessment of such issues.

The following additional specific findings are required to be included in a final consumer product safety standard by section 9(f)(3) of the CPSA, 15 U.S.C. 2058(f)(3):

1. That the rule (including its effective date) is reasonably necessary to eliminate or reduce an unreasonable risk of injury associated with the product;
2. That the promulgation of the rule is in the public interest;
3. If the rule relates to a risk of injury with respect to which persons who

would be subject to such rule have adopted and implemented a voluntary safety standard, that either (a) compliance with such voluntary standard is not likely to result in the elimination or adequate reduction of such risk of injury or (b) it is unlikely that there will be substantial compliance with such voluntary safety standard;

4. That the benefits of the rule bear a reasonable relationship to its costs; and
5. That the rule imposes the least burdensome requirement which prevents or adequately reduces the risk of injury for which the rule is being promulgated.

The following discussion addresses the subjects about which the Commission is required by section 9(f) of the CPSA to make appropriate findings. The findings that are required by the CPSA to be in the final rule are at § 1210.5.

B. Product and Market Information

Consumers purchased more than 600 million lighters in the United States in 1991. About 95 percent of these were nonrefillable disposable pocket cigarette lighters. The number of lighters sold in the United States is expected to increase somewhat during the early 1990's.

All nonrefillable lighters use butane fuel. These lighters are widely available through a variety of mass-merchandise retailers and are inexpensive (from under 50 cents to about \$3.00 each).

About five percent of the lighters purchased by consumers in 1991 were refillable. Refillable lighters use butane or liquid fuel. About two percent of all lighters sold were inexpensive (\$1.49-\$4.00) pocket refillables. About three percent were luxury lighters, which are often distributed through higher-end retailers such as jewelers. Luxury lighters generally retail for above \$10 and include pocket and table lighters. Less than one percent of all lighters sold were novelty lighters, which retail for about \$5 and up.

There are about 50 lighter importers in the U.S. One firm manufactures disposable lighters in the United States, and another firm manufactures luxury lighters in the United States. In 1989, three firms marketed more than 95 percent of all disposable lighters (90 percent of all lighters) sold in the United States. By the end of 1991, these three firms marketed about 70 percent of all disposable lighters. The decline in their market share is the result of a steady market penetration by recently introduced, very low-priced (\$0.35-\$0.75 retail), disposable roll-and-press lighters. The estimated 1991 sales are shown in Table 2.

Table 2
Lighter Sales—Projected 1993 Sales*

Type	Units (millions)	Percent of Sales
Disposable		
Nonrefillable (roll & press)	600	88
Nonrefillable (pushbutton)	50	70
Inexpensive refillable**	10	2
Subtotal	660	97
Novelty	1	< 1
Luxury refillables		
Pocket butane**	9	1
Pocket Liquid**	7	1
Table	1	< 1
Subtotal	17	< 3
TOTAL***	678	100

* figures represent point estimates within ranges
 ** categories each include some pipe lighters, all of which total less than 1 million units and 0.2 percent
 *** proportions are rounded within each category
 Source: Lighter Association and Individual company data and CPSC/Economic Analysis estimates

The popularity of the various lighter types is reflected in the composition of the stock of lighters in consumers' hands. Over one-half billion lighters are estimated to be "consumed" annually in the United States. The vast majority of lighters in use consists of butane-fueled nonrefillables. A CPSC-sponsored national household survey (L. Smith, C. Smith, & D. Ray, "Lighters and Matches: An Assessment of Risks Associated With Household Ownership and Use," CPSC, June 1991) revealed that in 1990:

- * 29 million households owned one or more working lighters; average ownership was about 3.5 lighters per household;
- * 104 million lighters were in consumers' hands, over 88 percent of which were disposable (72 percent roll and press, and 16 percent pushbutton); all types of pocket refillables accounted for about 10 percent of all owned lighters;
- * Although many more households (a total of 60 million) owned matches, and matches in homes outnumbered lighters 10 to 1, lighters were used more than 600 million times per day, compared to about 200 million times per day for matches; and
- * Lighting smoking materials accounted for 90 percent of lighter use, and about 60 percent of match use.
- * Based on the survey data and on historical sales figures, it is estimated that roughly 3 to 5 percent of all lighters in use are inexpensive "refillable disposables," and that about 5 to 8 percent are "luxury" pocket refillables. Novelty lighters and table lighters

probably account for less than 1 percent each.

There are about 50 manufacturers and importers of lighters in the U.S. In 1989, three firms marketing traditional major brands — Bic Corp., Wilkinson Sword (Cricket/Feudor), and Scripto/Tokai — accounted for over 90 percent of all units, including over 95 percent of all disposables, shipped in the U.S. By the end of 1991, however, these proportions had changed significantly: the traditional "big three" accounted for about 70 percent of unit shipments. Since the late 1980's, there has been a steady market penetration of very low-priced (\$0.35-\$0.75 retail) disposable butane roll-and-press lighters, principally from Korea, China, Thailand, and the Philippines. Low labor costs in these nations and competition among local component part suppliers reportedly allow per-unit production costs of 10 cents or less for standard-size models. The market share of one importer, Westco, reportedly rivals those of the big three. The estimated market share of low-priced disposables was over 30 percent in 1991. Two firms, Ronson and Zippo, are dominant in the pocket refillables market, though their overall market shares are very low.

All of the major firms are importers. Bic also manufactures disposable butane lighters in the U.S. Zippo is the only known supplier of domestically-manufactured refillable lighters; there are roughly 10 other firms that import only "luxury" refillables. Though production estimates from industry sources vary, most lighters sold in the U.S. are imported. Each of the major firms manufactures or imports other products in addition to lighters; however, lighters constitute a significant portion of their total revenues.

C. Potential Benefits of the Rule

The product safety standard on cigarette lighters will reduce the unreasonable risk of death and injury from fires started by young children playing with lighters. The rule primarily addresses the risk of fire started by children under age 5; for the period 1988-90, these fires caused an annual average of 150 deaths, approximately 1,100 injuries, and nearly \$70 million in property damage.

The total cost to the public of these child-play fires is roughly \$385 million annually. The rule will substantially lower this cost. The savings to society comprise the benefits of the rule.

Although the rule may prevent some fires started by older children, the extent to which this will occur is uncertain; therefore, this potential effect

is not included in the estimate of likely benefits of the rule.

The rule will require disposable and novelty lighters to be child resistant. This covers about 98 percent of all lighters sold to consumers each year. Complying lighters will be resistant to operation by at least 85 percent of young children when tested in accordance with the test protocol in the rule. The Commission's test data show that previously-marketed "non-child-resistant" disposable lighters to be resistant to operation by roughly 50 percent of children in tests; thus, the 85 percent acceptance criterion in the rule could eventually reduce child-play fire losses by up to $(85-50)/50=70$ percent.

Not all child-play fire casualties will be eliminated after the effective date of the rule. Large numbers of non-child-resistant lighters, including some refillables not subject to the rule, will still be in use. Further, consumers may find the child-resistant features of some complying lighters unacceptably inconvenient and switch to matches instead. Although the extent of the influence of these factors is uncertain, both may reduce safety benefits somewhat. A range of adjustments to reflect these factors is therefore incorporated into the benefits estimate. It is assumed non-child-resistant lighters may comprise up to 20 percent of all disposable and novelty lighters in use after the issuance of the rule, and up to 10 percent of lighters subject to the rule may be replaced by matches (the match-substitution factor will reduce benefits by a less-than-proportional amount, since, for this age group, the rate of child-play fire deaths for matches is less than one-third the rate for lighters). The upper limits of the adjustment ranges are generous; the point estimate of annual safety benefits, which reflects the midpoints of the ranges, is therefore somewhat conservative.

Assuming full compliance with the rule and no substantial change in the relative market shares of the various available types of lighters, between 80 and 105 deaths per year may be averted by the issuance of the rule. The total annual value of reductions in deaths (valued for statistical comparison purposes at \$2 million each), injuries, and property damage is approximately \$205-270 million. Under the best point estimate, using the assumptions above, about 95 deaths will be avoided and total annual savings to the public will be about \$230 million.

Manufacturers will probably strive to make lighters more child resistant than required, in order to assure compliance. This may vary with the quality-control

practices of individual companies. Thus, the effectiveness of complying lighters at reducing child-play fire losses may be greater than estimated. To the extent this situation exists, the annual safety benefits of the rule could be increased.

The rule will have substantial annual net benefits to the public. As noted in the cost discussion below, the rule may cost consumers approximately \$90 million per year. Thus, annual net benefits of \$115-180 may accrue. Under the point estimate of about \$235 million in safety benefits, expected yearly net benefits of the rule will be \$145 million.

D. Potential Costs of the Rule

The rule will require disposable and novelty lighters to be modified from their existing designs to incorporate effective child-resistant features. Significant costs to industry and to consumers will accompany this rule. Industry costs of developing, producing, testing, and certifying complying lighters will be passed on through the chain of distribution to consumers in the form of higher prices. The utility derived from lighters by consumers may be slightly decreased, to the extent child-resistant products are less convenient to operate. Many lighter models, especially novelty lighters, will probably be discontinued. Small importers may be particularly affected, since their foreign suppliers may not be able to ship adequate numbers of complying products by the effective date of the rule. Small firms may also be adversely affected by the certification and anti-stockpiling provisions of the rule.

Effects on industry. Manufacturers will have to modify their disposable and novelty lighter designs to comply with the rule. Self-resetting, child-resistant features will have to be incorporated into all such lighters intended for distribution to consumers in the U.S. Child-resistant lighters currently on the market use a spring-loaded button or lever as part of the child-resistant mechanism.

In order to achieve compliance with the rule, producers will incur costs associated with research and development, product redesign, prototype assembly and testing, unscheduled tooling changes, new component production and assembly procedures, certification, production testing and recordkeeping, and other administrative and legal support. Some firms may lose sales or market share, at least temporarily, if distributors or consumers view complying lighters as too high in price or too inconvenient.

Based on information from manufacturers and importers, initial costs to develop, design, and produce, and test prototypes of, child-resistant lighters may approach \$50 million. This cost, incurred over a period of 2-3 years, will be amortized over years of lighter production. Many producers will establish separate production facilities for U.S.-market child-resistant lighters and non-child-resistant lighters intended for other world markets. Some of the major firms marketing disposable lighters are already producing child-resistant models. Other companies are in the development stage. Some smaller firms are just beginning to develop complying designs. In addition, the cost of materials, components, and new assembly procedures may raise total variable costs somewhat. Recurring, production-related variable costs to domestic and foreign manufacturers are estimated to be roughly \$20 million annually.

In addition to production-related costs, all manufacturers and importers subject to the rule will incur costs associated with the various certification, testing, and recordkeeping requirements in Subpart B of the rule. Firms will be required to certify compliance based on a reasonable testing program, which the rule specifies will include building surrogate test lighters, conducting child-panel tests of surrogates, conducting tests of production lighters, maintaining records, and reporting information and providing samples to CPSC. The largest component of this cost involves conducting tests with panels of children; such test series cost \$5,000-10,000 each. Similar activities may be undertaken by some firms normally as a part of any new model development; however, the rule will require such activities to be performed and recorded. Industry costs associated with these certification activities are estimated to be approximately \$2-5 million annually.

The overall, per-unit cost of producing disposable and novelty lighters will increase as a result of the rule. A wide range of manufacturing costs exists for the various kinds of lighters affected; some butane nonrefillables cost less than 10 cents each to produce. Most disposables cost about 15-25 cents each to produce, though some covered refillable models may cost 50 cents or more. Novelties may range in cost from 25 cents on up; the production cost of most models is probably under \$2.00. The likely increase in total per-unit manufacturing cost attributable to the rule is roughly estimated at 1-5 cents for disposables, and 5-50 cents for most novelties.

These estimates do not reveal the entire cost to industry, since the value of lost sales of discontinued models is excluded. This potential adverse impact of the rule may be greater on small firms unable to arrive at commercially acceptable complying designs, despite the rule's 12-month effective date. For disposables, this effect will probably be temporary. Many novelties, however, may be discontinued indefinitely. Up to roughly \$5-10 million in annual sales could be lost if, for example, half of all novelties were discontinued; the precise extent of this loss is unknown. Many discontinued novelties will still be marketed in other countries. No importer's entire novelty line will be covered by the rule. All known novelty importers also offer disposables, most of which can be made to comply with less difficulty, or other novelty or luxury lighters not subject to the rule. No firms are expected to leave the U.S. lighter market as a result of the rule.

The rule incorporates a cost cutoff in the definition of disposable lighters. Butane lighters that are refillable, are not novelty lighters, and are over \$2.00 in Customs Valuation, or ex-factory price in the case of domestically-manufactured units (none presently exists), will not be subject to the rule. It is likely some foreign exporters will raise U.S. importers' prices of lighters with Customs Valuations just under this \$2.00 cutoff, in order to avoid compliance with the rule. This will effectively add to the cost of the rule. The degree to which this may occur is uncertain. There are relatively few butane refillables with Customs Valuations in the \$1.50-2.00 range (probably about 1-3 million units per year). Importers' prices of some — e.g., those over \$1.90 — may be raised, although the additional duty (9 percent of landed value) on higher-priced items may discourage such action. As noted in the discussion of alternatives below, alternate cost cutoff figures were considered; the potential for price-raising would exist regardless of the specific cost cutoff in the final rule.

The rule contains anti-stockpiling provisions, authorized by section 9(g)(2) of the CPSA, to prohibit excessive production or importation of noncomplying lighters during the 12-month period between the publication date and the effective date of the rule. These provisions limit production or importation to 120 percent of the rate in any selected 1-year base period within 5 years prior to the publication date of the rule. The anti-stockpiling provisions will have no significant impact on most firms, but could restrict sales growth for some small importers. There will

probably not be any significant, long-term adverse effects on small firms, although some temporary disruption may occur.

Effects on competition and international trade. Most lighters subject to the rule are imported. All firms marketing disposable or novelty lighters are importers; only one of these (Bic Corporation, which markets only nonrefillable butane lighters) manufactures any of its lighters in the U.S. Thus, although the rule may have adverse competitive effects, there will not be a significant differential impact on domestic vs. foreign producers of covered lighters. The competitive position of Zippo Manufacturing Company, a luxury lighter manufacturer and the only nonimporter among U.S. firms, will not be adversely affected, since luxury lighters and liquid-fueled lighters are not subject to the rule.

The several largest firms marketing disposable lighters may gain some temporary competitive advantage in the U.S. market. These firms were involved more heavily in the development of the ASTM draft voluntary standard; they were also generally more aware of the details of CPSC's regulatory proceeding, through either ASTM or the Lighter Association. Some of these major firms expended resources to develop and test child-resistant lighter designs; two companies (Bic and Cricket) began marketing disposable lighters with child-resistant features around the time of the Commission's proposal, and others are expected to have done so by the time this final rule is issued.

The Commission gives special consideration to the potential impact of its rules on small businesses. An estimated 30-35 of the 40-45 covered importers, including all known importers of novelties, could be considered to be small firms. The rule may lead to some disruption of sales among smaller importers, to the extent their foreign suppliers are unable to furnish adequate numbers of complying lighters before the rule's effective date. Many models, especially novelties, may be discontinued as a result of the rule. The rule's anti-stockpiling provisions may have particular adverse effects on some small firms experiencing recent sales increases. This impact will tend to be greatest on importers of the least expensive models. The rule incorporates a number of provisions, related to the scope, performance requirements, and effective date, designed to minimize the potential adverse effect on small importers.

The rule may also have some differential effects on importers of lighters from certain countries. For

example, importers of lighters from Korea — a major supplier of low-cost refillables covered by the rule — may be disproportionately affected, since a greater proportion of their total sales is comprised of lighters required to comply, compared to the sales of importers of Japanese or European lighters. Similarly, virtually all lighters produced in China, the Philippines, and Thailand will be subject to the rule. No importers are expected to leave the U.S. lighter market or go out of business as a result of the rule.

Since luxury pocket lighters (refillable, non-novelty lighters above \$2.00 in Customs Valuation) will not be covered by the rule, some market shift toward greater use of these products may occur, especially if consumers view

child-resistant models as very inconvenient. The market share of luxury lighters could increase slightly as a result, presumably at the expense of low-cost refillables (or, to a lesser extent, the highest-cost nonrefillables). Since significant price differences will continue to exist between disposable and luxury lighters, and since most complying disposables are not expected to be very inconvenient, the magnitude of this effect is estimated to be small.

Effects on consumers. The Commission's rule may have the following adverse effects on consumers:

a. The increased cost of producing child-resistant lighters will be largely passed on to consumers in the form of higher retail lighter prices. These increases will vary by lighter type.

b. Some lighter models, particularly novelties, will probably be discontinued. While most disposables will simply be replaced by complying models, some disposables and many novelties may be dropped indefinitely from importers' product lines, thereby limiting consumer choice.

c. The utility derived from lighters may be adversely affected, depending on the extent to which consumers perceive child-resistant lighters to be less convenient to operate.

The approximate retail price ranges for covered lighters before the imposition of the rule, and the estimated ranges of price increases attributable to the rule, are given in Table 3.

Table 3

Existing Retail Prices of Disposable and Novelty Lighters and Expected Price Increases Attributable to CPSC Rule (Dollars)

Type	Overall Pre-rule Price Range	Typical Pre-rule Prices*	Overall Increase	Typical Increase*
Disposables				
Nonrefillable	.39—4.00	.79—1.79	.10—.40	.15—.20
refillable	.80—8.00	2.00—4.00	.10—1.00	.25—.50
Novelties	2.00 & up	5.00—10.00	.50—5.00	.75—1.00

* Majority of units in each category believed to be within "typical" ranges of prices and projected increases
Source: CPSC/Economic Analysis and Industry estimates

As shown in the table, retail prices of nonrefillable lighters, which before the rule ranged from 39 cents to nearly \$4.00 (and averaged about \$1.00) will likely rise by 10-40 cents per unit. Price increases among inexpensive refillables, which before the rule ranged from 89 cents to over \$8.00, could be up to nearly \$1.00 per unit, though 20-50 cents will be more typical. Overall, most disposables will be replaced with child-resistant models priced about 15-20 percent higher. The projected price increases are higher for novelties than for disposables, since many novelty models have unusual ignition mechanisms not readily adaptable to the kinds of child-resistant features developed for disposables.

The total estimated annual cost of the rule to consumers is approximately \$90 million. For the estimated range of 80-105 deaths avoided per year, the cost of the rule per life saved will be well under \$1 million after considering the benefits of reduced injuries and property damage. This is well below the consensus of estimates of the statistical value of life.

A number of lighter models will probably be discontinued by importers after the rule's effective date. This will occur primarily among novelty lighters,

which reportedly declined in sales since their popularity peaked in the late 1980's. Over 100 different novelty models, accounting for 100,000-500,000 units annually, could be covered by the rule. Many of these, particularly the least expensive ones, will likely not be modified to incorporate child-resistant features, and will no longer be available to U.S. consumers. Since novelty sales are declining, the magnitude of the potential loss to consumers is not great; however, purchase choices for some consumers will be restricted to those kinds of lighters not subject to the rule.

An even less quantifiable cost of the rule is the potential adverse impact on the utility derived from lighters by consumers. Child-resistant lighters may be viewed as less convenient for adults to use, due to the multi-action nature of child-resistant features. Some such features may incorporate small or hard-to-manipulate buttons or levers, and may be especially difficult for elderly or physically impaired consumers (e.g., with arthritis) to operate with one hand. This potential loss to adult users may diminish over time as improved child-resistant mechanisms are developed by manufacturers, and as consumers become accustomed to child-resistant operating mechanisms. As noted above,

some consumers may switch, at least temporarily, to matches or to other lighters not subject to the rule if complying designs are perceived as unacceptably inconvenient.

E. Alternatives to the Rule

1. Scope

The Commission considered broadening or narrowing the scope of the rule. The considered alternatives included a rule that could be broadened in scope to cover more types of lighters, including some or all luxury lighters, low-cost liquid-fuel lighters, and novelty lighters. Another alternative is a rule that would be narrowed in scope to exclude some or all low-cost butane refillables, or to exclude some or all novelties.

a. Broader scope.

Luxury lighters. The final rule covers about 98 percent of all lighters sold annually in the U.S. If the rule were expanded to cover all lighters, roughly 15-20 million additional luxury units would have to be made child resistant. This would maximize the potential safety benefits of the rule.

As noted in the preliminary regulatory analysis, however, most child-play fire deaths and injuries

involve nonrefillable butane pocket lighters. The available fire data reveal no fatal fires started by children under age 5 involving any butane luxury lighters now on the market, and only one involving a liquid-fuel model. The number of child-play fire injuries associated with luxury lighters is also very small, despite the existence of millions of luxury lighters in use and their long service lives. The available data do not show that luxury lighters, as a class of products, pose a significant risk of fire death or injury.

Luxury lighters differ from disposables in certain characteristics affecting risk:

1. Though some luxuries may retail for as little as \$5.00-6.00, they generally retail for \$10.00 or more, or have equivalent value as promotional premiums. Consumers will therefore be less likely to (a) treat them like throwaway items and leave them in household locations accessible to young children or (b) view them as close substitutes for child-resistant disposables retailing for as little as \$1.00 (nonrefillable) to \$2.00 (refillable).

2. Luxury lighters are not sold to consumers in multi-packs, as are many disposables; thus, multiple product use (e.g., several working lighters in various locations around the household) is not encouraged.

3. Some luxuries have unusual ignition mechanisms, the operation of which may not be readily apparent or easily understood by young children; for example, most liquid-fuel luxury models have caps which must be opened before use.

These factors tend to reduce the likelihood of luxury lighter involvement in child-play fires. Allowing for the possibility that a few deaths and injuries could be averted if luxuries were covered, such an expansion of the scope of the rule might yield at most \$5-10 million in increased annual benefits.

The estimated cost of the rule would also increase, however, if luxuries were covered. Even though child-resistant features could be incorporated readily into some luxury models, the unusual or complicated components and case configurations of others, combined with the low production volume of these products generally, tend to make the adoption of child-resistant features more difficult and costly per lighter than for disposables. The establishment of separate assembly lines for child-resistant and non-child-resistant models may also be especially costly for small, low-volume firms marketing luxury lighters.

Production, testing, and certification costs will be passed on to consumers in

the form of higher retail prices. Using conservative estimates of \$1.00 per unit for all luxury lighters and of 15 million units affected annually, the increased annual estimated cost to consumers of a rule covering all luxury lighters is at least \$15 million. With increased annual safety benefits of at most \$5-10 million, the estimated annual net benefits of such a rule are still slightly (at least \$5-10 million) less than those of a rule covering only disposables and novelties.

Under another alternative, the Commission could, by deleting any reference to butane fuel in the rule's definition, have included liquid-fuel lighters in the scope of the rule. This would substantially disrupt the supply of such products to consumers, again without significant safety benefits. The least expensive liquid-fuel models might be discontinued, at least temporarily. There might be significant short-term adverse effects on the single domestic manufacturer (Zippo). Although this firm would probably not go out of business if its lighters were required to comply, sales could be substantially disrupted until successful child-resistant designs were developed and marketed.

Another way the scope of the rule could be broadened would have been to include the least costly butane luxury refillables. This could be achieved by raising the cost cutoff in the definition of disposable lighters above \$2.00 in Customs Valuation or ex-factory price. A rule incorporating a \$3.00 cutoff would cover approximately 3-4 million additional, moderately-priced (\$5.00-12.00 retail) units; a \$4.00 cutoff would cover about 4-5 million more moderately-priced units (mostly retailing for \$5.00-15.00, but some up to about \$20.00) than would a \$2.00-cutoff rule.

Raising the cost cutoff would make it less likely that non-child-resistant lighters could be marketed at retail prices approaching those of child-resistant nonrefillables. The most expensive complying nonrefillables could retail for between \$3.00 and \$4.00. If non-child-resistant models were viewed as reasonably close in price, and if child-resistant models were viewed as unreasonably inconvenient, some consumers might prefer the convenience of the former to the lower price of the latter. Such substitution could reduce the effectiveness of the rule slightly, although the combined annual volume of sales of expensive nonrefillables and moderate (\$2.00-4.00 Customs Valuation) refillables accounts for only 2-3 percent of all lighters sold.

Price markups in the chain of distribution are typically higher for

refillables than for nonrefillables. Even at unusually low markup percentages averaging only 50 percent for importers and retailers, \$2.00 Customs Valuation refillable lighters will retail for at least \$4.50. Many lighters, particularly the relatively low-volume refillables, are distributed through wholesalers, who add an intermediate markup. If markups for inexpensive refillables approached typical markups for nonrefillables, products at \$2.00 in Customs Valuation will likely retail for at least triple that figure, or approximately \$6.00. The available information from importers suggests the potential volume of refillable lighters will probably not be sufficient to sustain very low markups on a long-term basis. Very few non-child-resistant lighters will be available to consumers in the \$5.00-6.00 retail range. It is, therefore, unlikely that significant substitution will occur under any cutoff at or above \$2.00. Even if some substitution resulted, the cost cutoff will have a negligible effect on safety benefits; it is estimated that less than \$5 million in annual benefits will accompany an increase in the cost cutoff to either \$3.00 or \$4.00.

The cost of the rule to consumers, however, would increase with a rise in the cost cutoff, depending on the cost figure chosen. At roughly \$1.00-2.00 per refillable lighter affected, a \$3.00-cutoff rule may add roughly \$6-8 million to consumers' annual retail expenditures; a \$4.00-cutoff rule may add \$8-10 million per year.

As noted above, the potential safety benefits of including all lighters were generously estimated at \$5-10 million per year. If all of this were attributable to the lowest-cost luxury models, then the expected net benefits of the rule will not be significantly affected by a higher cost cutoff. Expected net benefits would be reduced to the extent potential benefits were allocated among higher-cost models. No information other than importers' sales estimates exists upon which such an allocation might be made; however, estimated net benefits will not increase, even if all benefits were associated with lighters under the cutoff. The most likely outcome of adopting a cutoff higher than \$2.00 is a slight reduction in the annual net benefits of the rule.

In addition, adopting a higher cutoff will probably have some temporary disruptive effects on the short-term sales and profits of affected small importers and on the availability to consumers of moderately-priced luxury lighters. As noted above, if low-cost liquid-fuel lighters (which are not considered close substitutes for butane disposables) were covered, some would be discontinued,

at least temporarily, due to the relative difficulty of incorporating child-resistant features into these products. A small number of pushbutton butane refillables, including some premium lighters, may also be discontinued if their sales volumes is judged to be too low to justify the additional expense. Even if the net benefits of a higher-cutoff rule were equal to those of the \$2.00-cutoff rule, the latter will be less burdensome to industry, particularly to small importers.

Low-cost liquid-fuel lighters. The Commission considered the alternative of including non-luxury liquid-fuel lighters in the scope of the rule by deleting the reference to butane fuel in the definition of disposable lighters. While liquid-fuel luxury lighters (such as those produced by Zippo, the only domestic firm that does not import any of its lighters) would not be covered, up to 1 million low-cost (under \$2.00 in Customs Valuation) imported liquid-fuel lighters would be covered. This would prevent low-cost, non-child-resistant, liquid-fuel lighters from being substituted for child-resistant, butane disposables after the issuance of a rule.

The least expensive liquid-fuel lighters are price-competitive with the most expensive butane disposables. Liquid-fuel lighters are not particularly close substitutes for butane disposables, however, due to other, non-price, differences. The liquid fuel refilling procedure is relatively inconvenient and messy; the liquid fuel is unpressurized, and tends to evaporate. Thus, unlike butane lighters, liquid-fuel lighters are shipped and sold to consumers without fuel; consumers must purchase fuel and fill the lighters before initial use; liquid-fuel lighters are not sold to consumers in multi-packs; and the operation of liquid-fuel lighters is generally less convenient.

Unless child-resistant butane lighters are very difficult to use, most butane-lighter users will probably not give up the convenience of butane lighters for liquid-fuel models without child-resistant features. Non-child-resistant butane luxuries, some of which may retail for \$5.00-6.00, will still be available after the issuance of the rule. Most child-resistant disposables will still be lower in price than any liquid-fuel models. A substantial consumer shift to the use of non-child-resistant liquid-fuel lighters is unlikely, given the fairly convenient child-resistant mechanisms being employed or developed for butane disposables. Thus, it is unlikely that safety benefits would increase as a result of adding low-cost liquid-fuel lighters to the rule's scope.

Adding low-cost liquid-fuel lighters to the scope of the rule would affect up to roughly 1 million such lighters, retailing for up to about \$8.00-9.00 (or with equivalent value as promotional giveaways). It may be particularly difficult to incorporate child-resistant features into these designs; no such features currently exist. Most, if not all, low-cost liquid-fuel models would probably be discontinued, at least temporarily. Liquid-fuel luxury lighters could still be available, but consumer expenditures on liquid-fuel lighters would increase slightly. The annual cost of the rule to consumers would be on the order of \$1-5 million, depending on the extent to which consumers substituted higher-cost liquid-fuel models for discontinued low-cost ones.

The estimated cost of including low-cost liquid-fuel lighters in the scope of the rule is slight; however, the likely benefits are negligible. The estimated annual net benefits of the rule would probably not increase if liquid-fuel lighters were covered, and could decrease slightly.

Novelty lighters. The rule covers novelty lighters depicting or resembling in physical form or function articles recognized as appealing to or intended for use by children under 5, including lighters with entertaining audio or visual effects. This definition has been changed from that in the proposal, which defined novelties as being lighters that resemble any other object in physical form or function. Regardless of whether a lighter meets the definition of novelty lighter in either the proposed or final rule, it is covered if it meets the definition of disposable by virtue of being nonrefillable or a refillable butane lighter under \$2.00 in Customs Valuation or ex-factory price. The Commission considered whether the rule should cover all novelties included in the proposed definition; this would obviate the need to determine which refillable novelty models are appealing to or intended for use by children under 5. It would also cover numerous (possibly over 100) novelty models resembling ostensibly "adult" items, including tobacco-premium lighters in the form of cigarette packs and other articles; many of these are considered to be less appealing to young children.

No deaths in the Commission's child-play fire data are associated with any novelties. The potential safety benefits of the rule might be slightly increased if adult novelties were included, but any such increase would be negligible.

Most novelties included within the scope of the rule will probably be discontinued. Under 500,000 refillable adult novelties above the \$2.00

disposable cost cutoff are estimated to be imported annually. Including these products would effectively increase the cost of the rule to consumers by up to \$1 million, depending on the extent to which such lighters were modified to comply or were discontinued.

The likely impact of including "adult" novelties on the estimated overall yearly net benefits of the rule would probably be negligible. The burden of the rule on small importers, however, could be increased. The final rule's definition covering novelties resembling articles appealing to children will have less potential adverse impact on small firms, while covering those lighters presenting the greatest potential risk.

b. Narrower scope.

Low-cost refillable lighters. The rule's \$2.00 cost cutoff in the definition of disposable lighters could have been lowered in order to reduce the potential economic burden on importers marketing low-cost refillable butane lighters. The Commission also considered whether it should not cover any refillable lighters, since the overall risk of child-play fires associated with refillables generally is low — and could eliminate refillables and their cost cutoff entirely from the definition of disposable lighters.

Price and operating convenience are the major factors influencing consumer purchases of disposable butane lighters. Low-cost refillable butane lighters are included in the scope of the rule because they may be reasonable substitutes for many nonrefillables. These two groups both use the same fuel; they use the same convenient ignition mechanisms; they are often sold in multi-packs; and they are often similarly priced. Price increases among nonrefillables after the imposition of the rule may make inexpensive non-child-resistant refillables even more attractive as potential substitutes. The inclusion in the rule of low-cost butane refillables will also discourage manufacturers from adding refill ports to nonrefillable models (a reportedly simple and inexpensive modification) in order to circumvent the rule.

The \$2.00 cost cutoff for refillable lighters will cover existing models whose retail prices approach those of the most expensive nonrefillables. The highest observed retail price for nonrefillables is \$4.00 (though almost all are under \$3.00); the least expensive butane refillables retail for as little as \$1.00, which is within the price range for nonrefillables. There may be 50 or more refillable models retailing for under \$4.00; these may be considered by some consumers to be reasonable

substitutes for child-resistant nonrefillables. Although some refillables retailing for up to \$8.00-9.00 may be covered by the rule due to price markups in the channels of distribution, the vast majority of products covered will be under \$6.00 retail.

An estimated 8-10 million butane refillables were imported at under \$2.00 in Customs Valuation in 1992; roughly 5-6 million of these were between \$1.00 and \$2.00. Thus, if the Commission adopted a \$1.00 cutoff, a majority of low-cost refillable lighters whose retail prices are competitive with nonrefillables would be exempt from coverage by the rule. If some low-cost novelty lighters were also exempted from coverage, compliance costs would be reduced or eliminated for at least 50 foreign (mostly Korean) manufacturers, 5-10 U.S. importers, and numerous distributors of these products. The annual reduction in the total cost of the rule to consumers could be on the order of \$5-10 million. If no refillables were covered, the annual cost of the rule could decrease by a total of up to \$10-15 million.

The potential adverse effect of the rule on competition among imported lighters will also be affected by lowering or eliminating the cutoff. At \$1.00, any advantage conferred upon manufacturers and importers of costlier lighters would simply be shifted down the cost scale. Some disincentive for manufacturing efficiency and lower prices will probably exist regardless of the cutoff level. Reducing the cutoff or exempting refillable lighters may provide a somewhat greater incentive for foreign suppliers to circumvent the rule (by either raising prices above the cutoff level or, if refillables were not covered, by modifying nonrefillables with refill ports), since price competition with child-resistant models could be more readily maintained.

Under a \$1.00 Customs Valuation/ex-factory price cutoff, non-child-resistant butane refillable lighters would be available for as little as \$3.00 retail. If no refillables were covered, non-child-resistant lighters would be available at \$1.00 or less. The total cost of the rule to the public would be reduced, partly because cost increases for refillables would be avoided, but mainly because consumers would be more likely to substitute such products for child-resistant nonrefillables. Since some complying refillables and virtually all complying nonrefillables will still be available at lower prices, however, the impact of substitution on total costs to consumers might not be large. Costs to consumers may also be reduced to the extent competition from non-child-

resistant lighters exerted downward pressure on prices of complying models.

The potential effect of lowering or eliminating the cost cutoff for refillable lighters on the safety benefits of the proposed rule also depends largely on the extent of consumer substitution of non-child-resistant refillables for child-resistant models. A low level of substitution would probably have little adverse impact. A higher level of substitution (e.g., a doubling or more of the market share of low-cost refillables, which was less than 5 percent in 1992) would result in a somewhat greater reduction in potential safety benefits. If the market share for inexpensive refillables grew dramatically (e.g., to 20 percent), the benefits of the rule could be reduced by \$20 million or more.

With non-child-resistant refillable lighters retailing for as little as \$3.00 after the issuance of a \$1.00-cutoff rule, some substitution would be likely to occur. This could reduce the annual net benefits of the rule slightly — probably less than \$5 million. An unknown but much greater reduction in net benefits might occur if no refillables were required to be child resistant and refillables were heavily substituted for complying nonrefillables. Significant substitution will be less likely under the \$2.00 cutoff. Annual net benefits probably would not increase under any circumstances if the cost cutoff were lowered or eliminated, though the burden of the rule on some small firms could be reduced. Issuing the rule with the \$2.00 cost cutoff will nearly minimize potential substitution without imposing a substantial economic burden on small importers, and without penalizing firms marketing complying lighters.

Novelty lighters. As noted above, the scope of the rule with respect to novelty lighters is narrower in the final rule than in the proposed rule. The Commission considered narrowing the scope further by eliminating the specific reference to novelties in the description of the scope of coverage of the rule.

Novelties that are not required by the rule to be child-resistant will probably not be. Excluding novelties from the rule could reduce the economic impact of the rule on importers of novelties, and many novelty models facing discontinuation from the U.S. market would remain unregulated. However, up to roughly half of all novelty shipments would still be covered, since they will meet the rule's definition of disposable lighters (i.e., nonrefillable or butane refillable under \$2.00 in Customs Valuation).

Less than 1 million novelties were imported into the U.S. in 1992. If

novelty lighters were not explicitly covered by the rule, estimated annual shipments of roughly 200,000-300,000 butane refillable novelties over \$2.00 in Customs Valuation (plus a very small number of liquid-fuel novelties), which will otherwise have to be modified or discontinued, would remain unaffected. Raising or lowering the cost cutoff could affect this estimate by up to 100,000-200,000 units. The annual cost of the rule to consumers could be reduced by up to \$1-5 million, depending on the compliance cost otherwise attributable to the various models affected, and on the extent of the potential loss to consumers if such models will otherwise be discontinued.

The potential safety benefits of the rule would also be reduced slightly if novelties were not explicitly covered. Since the number of products involved is very small, this potential reduction would be slight; however, some toy-like or otherwise appealing novelties would escape coverage by virtue of being refillable and above the cost cutoff.

Relying on the general definition of disposable lighters, including the cost cutoff, to identify covered novelties would obviate the need for judgments about which lighters are novelties and which are appealing to children. It also, however, would allow the marketing of some novelties that appeal to young children. Many novelty lighters the CPSC's staff regards as attractive to children are above the \$2.00 cutoff.

The preliminary regulatory analysis estimated that \$5-10 million in reduced benefits, and up to \$5 million in reduced net benefits, would be associated with a rule excluding all novelties. As noted above, however, many novelties will still be covered as disposable, even if novelties were not explicitly subject to the rule. Some child-play fires could occur if novelties over \$2.00 in Customs Valuation and considered appealing to young children were not required to be child-resistant. The expected annual net benefits of the rule could be reduced slightly (probably by less than \$5 million) if the rule only applied to disposable lighters, which include only low-cost or nonrefillable novelties.

2. Performance and Technical Requirements

a. Introduction. The rule incorporates a test protocol for surrogate lighters representing each model or type of lighter subject to the rule. The rule requires such surrogates to be resistant to operation by 85 percent of tested children under specific test conditions. The rule also requires qualification tests for subject lighters be conducted in the

U.S. (the proposal did not restrict such tests to the U.S., if specified conditions were met). In order to increase safety or decrease costs, the Commission considered promulgating the rule with either a higher or a lower acceptance criterion than the 85 percent level; similarly, certain key technical aspects of the test procedure could be strengthened or relaxed. In addition, the Commission could have allowed foreign testing in order to reduce potential costs to small importers.

b. *Acceptance criterion.* As noted in the proposal, the Commission's baseline test data show that existing disposable lighters (i.e., those with no specific child-resistant feature) are about 50 percent child resistant. The proposed 85 percent level represents a balance of safety benefits and technical and economic feasibility for most manufacturers and importers. Information from a number of firms indicates the 85 percent criterion — which will essentially require surrogate lighters to exceed 90 percent child resistance in tests — is generally achievable.

Requiring lighters subject to the rule to meet a higher acceptance criterion may, on its face, appear to increase safety, but the Commission cannot show that it is either technically or economically feasible. Lighters would probably be so difficult to operate that many adults could not operate them. Nearly-child-proof lighters (as might be required under a 90 or 95 percent acceptance criterion) reportedly cannot be produced under reasonable manufacturing and quality control conditions. Such a requirement could virtually ban disposable lighters. This will have a serious adverse impact on manufacturers and importers, some of which could go out of business. The cost of a 90 or 95 percent rule to the public is uncertain; however, substantial adverse effects on the availability of disposable lighters will probably result.

Even a rule that ensures that the covered lighters are 100 percent child resistant would not guarantee the elimination of a number of child-play fires, deaths, and injuries equal to that currently involving disposable lighters. Deaths and injuries may be associated with an increased use of matches — the closest substitute for disposable lighters — and perhaps of non-child-resistant lighters, to the extent these products replaced disposable lighters in the stock of products in use. The extent to which such replacement occurs can be expected to be related to the degree of difficulty that complying lighters present to adults.

Substantially greater costs to industry and to consumers would result from a higher acceptance criterion; most, if not all, firms would be unable to comply with such a requirement. It is uncertain whether benefits will be significantly increased under this alternative. The annual net benefits of the rule could decrease significantly if an unattainably high acceptance criterion were adopted and consumers were limited to higher-priced, non-child-resistant refillable lighters or matches as substitutes for most disposables.

Lowering the acceptance criterion may increase the probability that some small firms' designs will comply, but many small firms will be able to meet the 85 percent proposal without significant disruption. The total cost savings associated with a 75 or 80 percent rule would not be substantial; many firms would offer similar or identical products to meet any criterion of at least 75 percent. Some cost reduction would probably result; annual cost savings to consumers are generously estimated at up to \$10-20 million. Annual safety benefits, however, could also decrease by up to \$10-30 million, depending on the extent to which complying lighters were actually less child resistant. The annual net benefits of the rule would probably be reduced slightly if the acceptance criterion were lowered to 75 or 80 percent.

c. *Test protocol specifications.* The test protocol in the rule calls for two demonstrations of the operation of the lighter surrogate being tested, and defines a successful operation as any single activation of the surrogate. The proposed rule, which called for three demonstrations and one activation, was slightly more stringent. Generally, a more stringent test will incorporate more demonstrations or fewer activations; a less stringent test will incorporate fewer demonstrations or more activations.

To the extent any combination of these elements in the test procedure discriminated among lighter designs (i.e., a surrogate will pass the less stringent test but fail the more stringent one), some models already under development or on the market might have to be modified or redesigned in order to comply with a more stringent alternative. This would increase costs for the affected firms. The availability of complying lighters from these firms could be delayed until any necessary improvements were made. The potential impact on total industry costs or on competition is uncertain; however, there is no information to suggest such impacts will be significant. Costs to

consumers probably will not increase due to these factors. The potential benefits of the rule presumably would be greater under a more stringent test, although the likely increase is slight. A more stringent test will probably have a negligible overall impact on the expected annual net benefits of the rule.

A less stringent test might reduce the cost of the rule slightly, and might eliminate potential disruption among firms whose lighters might not otherwise be acceptable. Such lighters, however, need not be as child resistant. Thus, potential safety benefits of the rule may be slightly lower under a less stringent test, depending on the actual level of child resistance among lighters on the market after the rule became effective. Since child-resistant lighters are generally expected to comply when tested in accordance with the two-demonstration, one-activation scheme in the final rule, the potential adverse impact of a less stringent test on benefits is probably very small. In view of the small potential reductions in both costs and benefits, the likely effect of a less stringent test on the annual net benefits of the rule is negligible.

d. *Testing in the U.S.* The rule requires qualification testing of lighters to be conducted in the U.S. This minimizes the potential effects on test results of cultural or other differences among children in different countries, and helps ensure proper testing by affording CPSC ready access to testing facilities and records. The proposal did not restrict such testing to the U.S., if equivalency between the countries was demonstrated. The Commission considered whether to allow foreign testing to ease the potential burden of the rule on small importers and foreign suppliers.

Firms accounting for over 80 percent of all lighters subject to the rule, including all the major firms, reported they will conduct all their testing in the U.S., even if not required to do so. Allowing testing outside the country might reduce compliance costs for some small importers whose foreign suppliers are willing and able to conduct tests near their production facilities. Testing in foreign countries, however, is reportedly not appreciably less costly than in the U.S. Further, testing costs account for a relatively minor portion of total industry costs of compliance. Thus, even sizeable differences between foreign and domestic testing costs will not significantly affect total costs or importers' ability to obtain and market complying lighters. The cost of child-resistant lighters to consumers will also be unaffected.

If testing were not limited to the U.S., there may be a greater likelihood of improper tests being used to establish the child resistance of imported lighters. If improper tests were used, some lighters could be less child resistant than claimed, and the safety benefits of the rule may be lessened. Although most lighters subject to the rule would probably be tested in the U.S. anyway, a significant number — possibly up to 20 percent — of all lighters otherwise would be certified based on foreign tests.

3. Certification

Manufacturers and importers will be required to issue certificates of compliance with each shipping unit of lighters intended to be distributed to consumers; such certificates will go to the first purchaser in the chain of U.S. distribution. The rule will also require dates of manufacture to appear on all subject lighters and on certificates of compliance. Certificates of compliance will most likely be printed on shipping containers or on product packaging. Date codes (e.g., month and year) will be molded or stamped into the case of each lighter. Date coding will presumably be done in advance of anticipated assembly dates, since components of a given production batch of lighters are often manufactured over a period of weeks, or even months. Matching or inclusive dates will also have to be printed on each certificate of compliance.

Importers often package lighters from bulk shipments for sale to distributors or retailers. Shipments received by importers generally contain lighters from many assembly dates. Importers will have to establish detailed inventory controls to ascertain the appropriate range of dates for each certificate of compliance. This may involve checking individual lighters or small boxes (typically 50 units for the smallest) within a shipping container. Each shipping container may hold several hundred thousand individual lighters. The Commission considered the possibility of deleting the date code requirement for certificates of compliance in order to reduce importers' costs.

Dropping the date code requirement for certificates of compliance could lessen inventory control costs for some importers, and would eliminate the cost of multiple-date-code labels and certificates. Some major firms are expected to label every shipping container, including outer crates, inner cartons, and prepackaged cards or trays of lighters, whether required to do so or not. Most other firms probably could institute the appropriate inventory

controls, though some small importers may have limited labor resources to perform extra, manual inventory checks. Total cost savings to importers associated with dropping the date code requirement would probably be under \$1 million per year.

The date code requirement does not increase the child-resistance of lighters. There may be benefits to consumers, however, if recalls or other corrective actions are facilitated by the presence of date codes on certificates of compliance in the possession of distributors or retailers. Some such corrective actions may be necessary, particularly during the first years following the issuance of the rule. The presence of a date code could also be an advantage to firms that had to recall noncomplying lighters by enabling the firms to limit the scope of the recall to specific coded units.

4. Stockpiling

The rule restricts the production or importation of noncomplying lighters of the types subject to the rule between the rule's promulgation date and effective date. Some small firms that are experiencing significant sales growth may be adversely affected by these anti-stockpiling provisions. Narrowing the application of these requirements might reduce the burden of the rule on some small importers.

If a higher allowable importation or production rate (e.g., 200 percent of the base period rate) were incorporated into the anti-stockpiling provisions, the potential disruption of small firms' sales would probably be eliminated. This would effectively lift the restriction on any reasonable amount of sales growth, but will also allow firms to increase the manufacture or importation of non-child-resistant lighters substantially, thereby giving potential price and convenience advantages over child-resistant lighters. In the short run (1-2 years), this could reduce the safety benefits of the rule significantly if major suppliers continued to offer mostly noncomplying units. Whether large firms will be likely to stockpile noncomplying lighters is uncertain. Although the commercial incentive to do so will exist, so will the disincentives of higher inventory and distribution costs and, possibly, greater liability exposure.

Exempting small firms (e.g., those with annual sales under \$5 million) would have a similar salutary effect on up to 30-35 small importers, without allowing larger firms to stockpile noncomplying units. There could still be some adverse effect on potential benefits, if large sales increases among small firms for 1 year temporarily

increased the proportion of non-child-resistant lighters otherwise available to consumers.

Exempting or raising the allowable increase for novelty lighters would reduce the short-term burden on roughly 5-10 small importers of these products. Since novelty lighters' sales are generally not increasing (and reportedly declined substantially for some firms in recent years), however, the reduction in costs for small firms would probably be slight.

The volume of sales for novelties is very small (under 1 million units per year of all types). It is very unlikely that non-child-resistant novelties will be substituted in significant quantities for child-resistant disposables (which will still be much lower in average retail price). Thus, even substantial increases in the number of novelty lighters imported without child-resistant features will probably have a negligible adverse impact on the safety benefits of the rule.

The potential effect on the expected net benefits of the rule of any burden-reducing modification to or exemption from the anti-stockpiling provisions depends on whether firms would produce or import significant additional quantities of noncomplying lighters. Assuming most firms will exploit the potential price and convenience advantages of non-child-resistant models, some reduction in net benefits could accompany a general rate raising or an exemption for small importers of refillables. A higher rate (or an exemption) for novelty lighters will probably have virtually no impact on net benefits, although the likely burden reduction for small importers will be slight.

5. Effective Date

The rule incorporates an effective date of 12 months from the date of publication of the final rule in the *Federal Register*. The Commission considered shorter and longer effective dates. Section 9(g)(1) of the CPSA calls for product safety rules to become effective not more than 6 months from their publication dates, unless the Commission extends the time period and finds that such an extension will be in the public interest. The 12-month effective date will lessen the economic burden of the rule while providing protection to consumers in a reasonably expeditious manner and, as discussed in more detail below is in the public interest.

Since the rule's anti-stockpiling provisions will limit the production or importation of noncomplying lighters between the promulgation and effective

dates of the rule, even the 12-month effective date will temporarily disrupt the sales of a small number (perhaps 5-10) of the 30-35 small firms importing lighters whose foreign suppliers could not develop commercially acceptable complying lighters by that time. The Commission could find 12 months insufficient to minimize potential adverse effects on small firms. An extension beyond 12 months could reduce, or at least delay, this disruption.

Most firms will probably be able to market complying products within 12 months. Even small companies will probably be able to obtain child-resistant versions of most models. Thus, the availability and cost of child-resistant lighters to consumers will probably not be significantly affected by extending the effective date beyond 12 months. Further, most small firms will not be substantially harmed by the 12-month effective date.

Delaying the effective date beyond 12 months would also delay the full measure of benefits to consumers. The amount of any reduction in benefits will depend on the extent to which consumers with young children purchase and use child-resistant lighters on the market before the effective date. The potential adverse impact on benefits could be significant if most consumers continued to use non-child-resistant lighters.

The Commission also considered whether 12 months provides inadequate protection to the public, and whether the effective date should be 6 months. Shortening the effective date to 6 months would substantially disrupt the sales of most firms, including some of the major importers, and would temporarily restrict the availability of lighters to consumers. This would probably confer a competitive advantage upon those large firms already marketing child-resistant disposable lighters. It is unlikely that any small firms, including all importers of novelty lighters, would be able to obtain complying models within 6 months.

Under a 6-month effective date, the benefits of the rule could be increased during the first year after the rule became effective. Substantial adverse effects on industry, especially on small firms, would also result. The likely extent of any increase in expected net benefits is uncertain.

Although extending the effective date beyond 12 months might reduce the burden of the rule on a few small firms, the 12-month effective date provides near-minimum adverse effects while providing a reasonable level of safety. The estimated first-year net benefits of the rule would probably not increase —

and could decrease somewhat — if the effective date were extended beyond 12 months.

6. Labeling

The rule requires subject lighters to bear marks or labels identifying the manufacturer or importer and the date of manufacture. Many lighters currently carry warning or other labels with safety messages such as "keep out of the reach of children;" such labeling is part of the existing ASTM voluntary standard (not the ASTM draft child-resistance standard). The Commission could mandate the use of this or other safety messages on labels, either on lighter packaging or on lighters themselves. This labeling could be mandated instead of the performance rule or in addition to it.

The cost of the rule would be reduced to near zero if only labeling were required, even for all lighters. Since most disposable lighters marketed by all the major firms now carry such a label, any cost increase will affect only those small firms whose lighters are not now labeled. This cost will be negligible, and would not add to the retail prices of lighters.

On the other hand, since most lighters (including most lighters involved in child-play fires) already carry warning labels, a label-only rule will have slight benefits, if any. The estimated annual net benefits of such a rule would be very small — probably near zero; the annual net benefits of the Commission's performance rule will be much greater.

The cost to consumers of requiring additional or different warnings or other labeling would be very small (probably much less than one cent per lighter); again, this cost would add only slightly, if at all, to the cost of the rule to consumers. By the same token, no information exists to suggest that mandating additional warning or other labels — on an already crowded lighter case surface, in many instances — would measurably improve the safety afforded by the rule. Expected annual net benefits would probably not increase as a result of mandating additional labels.

7. No Action/Voluntary Standard

The draft voluntary safety standard for the child resistance of lighters developed by the ASTM F15.02 Task Group on Safety Standards for Lighters is similar in most respects to the final CPSC mandatory rule. Although the draft was not adopted as a final ASTM standard, lighters designed and produced to meet the draft standard are presently available to consumers. Conforming products were introduced

by Cricket and Bic in 1992. It is assumed the Cricket and Bic products will meet the CPSC rule as well. Other firms are developing competitive lighters with child-resistant features. The Commission considered whether such voluntary action would adequately reduce the unreasonable risk of child-play lighter fires; if so, the Commission could find a mandatory rule is no longer reasonably necessary.

In the absence of a mandatory rule, the major firms will probably continue to offer lighters conforming to the ASTM draft. Some of the ASTM provisions (e.g., acceptance criterion, coverage of refillable butane and novelty lighters, and various technical specifications of the test protocol) are less stringent than CPSC's rule. Most of the safety benefits associated with the CPSC rule would, however, accompany widespread adoption of the draft ASTM standard.

The likely level of voluntary conformance, however, is not high. Most, if not all, firms offering child-resistant lighters will also market non-child-resistant ones. With suggested retail prices of up to 20 percent higher for child-resistant models, their market share may not be large. In the absence of a mandatory rule, or of high conformance expectations for the draft voluntary standard, many firms could not justify the development costs for child-resistant lighters.

Substantial voluntary conformance would probably occur only among higher-priced disposables; the lowest-priced models would probably not conform. If the overall voluntary conformance rate among disposable lighters purchased by consumers were generously estimated at 50 percent, total annual costs to consumers would be reduced to roughly \$50 million. Consumer choice among low-priced lighters would be enhanced. The potential adverse impact of a mandatory rule on small businesses would be essentially eliminated. Benefits would also be reduced, however, and could decrease over time if child-resistant lighters were not widely accepted by consumers with young children. Voluntary action could avert at most 35-45 deaths per year, and have annual net benefits of up to \$40-65 million. Decreases in the use of child-resistant models would reduce the likely net benefits. Although voluntary action could have significant net benefits to consumers, the CPSC mandatory rule will have far greater net benefits.

8. Issues Raised by Public Comments on the Proposal

A number of economic issues were discussed in the public comments on the proposal. These generally involved the potential benefits, costs, and overall economic burden of the rule. Many commenters recommended changes to the proposed rule in several areas. For example, different commenters recommended:

- broader or narrower scope of coverage;
- more or less stringent performance and test protocol requirements;
- less burdensome certification requirements;
- narrower coverage for anti-stockpiling provisions;
- longer effective date; and
- additional labeling requirements.

These comments are addressed generally in the discussion of the various alternatives to the rule above. Comments on specific aspects of the preliminary regulatory analysis centered on scope issues, and questioned the Commission's justification in the proposal for:

- excluding luxury lighters and liquid-fuel lighters;
- setting a \$2.00 cost cutoff and a 5-year cost adjustment period in the definition of disposable lighters; and
- including all novelty lighters.

These comments are specifically responded to in Section VI of this notice.

9. Conclusion

Substantial net benefits to the public will accompany the Commission's rule requiring lighters to be child resistant. Safety benefits, in terms of reduced deaths, injuries, and property damage from child-play fires, are estimated at \$205-270 million per year. The cost of the rule to consumers, in terms of increased retail expenditures for lighters, is estimated at about \$90 million per year. Thus, \$115-180 million in annual net benefits may result. Using a cost point estimate of \$235 million, annual net benefits will be \$145 million. The rule will reach near-maximum effectiveness in a relatively short time — perhaps 1-2 years — since most lighters are replaced every few months.

Most manufacturers and importers will likely be able to market commercially acceptable, child-resistant lighters by the time the rule goes into effect July 12, 1994. Some small importers may have difficulty in obtaining complying lighters within 12 months, but any disruption of sales will be temporary; no firms are expected to leave the U.S. market or go out of business as a result of the rule.

A number of alternatives to the rule exist, including options regarding various aspects of the rule itself. While these alternatives may increase potential benefits slightly or reduce costs, none will increase expected net benefits. In cases where net benefits are unaffected, no alternative will significantly increase safety to consumers.

Some comments on the preliminary regulatory analysis in the proposal suggested improvements in the way benefits and costs were estimated, or recommended alternatives to various aspects of the proposed rule. In some instances, these suggestions and recommendations were incorporated into the final regulatory analysis and the rule. Chief among these alternatives was the narrowing of the coverage of novelty lighters in the scope of the rule; this change will reduce the potential adverse impact on small firms without reducing safety.

After considering the foregoing information, the Commission concludes that:

1. The rule (including its effective date) is reasonably necessary to eliminate or reduce an unreasonable risk of injury associated with the product;
2. The promulgation of the rule is in the public interest;
3. The benefits of the rule bear a reasonable relationship to its costs; and
4. The rule imposes the least burdensome requirement which prevents or adequately reduces the risk of injury for which the rule is being promulgated.

V. Final Regulatory Flexibility Analysis

A. Introduction

The Regulatory Flexibility Act (RFA), 5 U.S.C. 601-612, requires that rules be reviewed for their potential economic impact on small entities, including small businesses. The RFA, at 5 U.S.C. 603, requires agencies at the time a rule is proposed to prepare and make available for public comment an Initial Regulatory Flexibility Analysis describing the impact of the rule on small entities and identifying impact-reducing alternatives, unless the agency certifies that the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. The proposal contained the Commission's Initial Regulatory Flexibility Analysis.

Section 604 of the RFA requires agencies issuing final rules to prepare and make available a final regulatory flexibility analysis containing:

1. a succinct statement of the need for, and the objectives of, the rule;

2. a summary of the issues raised by the public comments in response to the initial regulatory flexibility analysis, a summary of the assessment of the agency of such issues, and a statement of any changes made in the proposed rule as a result of such comments; and

3. a description of each of the significant alternatives to the rule consistent with the stated objectives of applicable statutes and designed to minimize any significant economic impact of the rule on small entities which was considered by the agency, and a statement of the reasons why each one of such alternatives was rejected.

About 40-45 firms produce or import lighters subject to the rule; all of these firms, including the single company manufacturing lighters domestically, are importers. An estimated 30-35 of these importers reportedly have annual sales of less than \$5 million and fewer than 50 employees; these are considered to be small firms by the Commission. The single domestic producer affected by the rule is not small. One other domestic lighter manufacturer exists; this firm, which is also not considered to be small, markets no products known to be subject to the rule.

The Commission routinely considers potential effects on competition and small businesses as part of the agency's overall evaluation of the potential economic impact of its rulemaking actions. A summary of these effects is included in the final regulatory analysis required for rules issued under the Consumer Product Safety Act. Since a large proportion of the firms affected by this safety standard for cigarette lighters is comprised of small companies, the Commission gives particular consideration to the potential economic impact of the rule on small firms. The Commission's final regulatory flexibility analysis for this rule is set forth below.

The Commission took various steps to include small firms in the regulatory development proceeding. These steps include publishing and distributing the preliminary regulatory analysis with the proposal, directly notifying and soliciting comments from all known firms, and holding a public hearing on the proposal. Written comments were received from small firms; representatives of a number of these firms also attended the public hearing.

The rule on lighters may have significant short-term economic effects on small businesses, i.e., importers of disposable and novelty lighters, though the likely long-term impact on most such firms is small. The foreign suppliers of some small importers may lack the technical capability to develop complying, child-resistant lighters.

These importers may leave the U.S. market temporarily, or experience disruption in the supply of complying lighters; either outcome could adversely affect the competitive positions of some small companies.

The Commission considered a number of alternatives to the rule, some of which would lessen potential effects on small firms. As noted below, alternatives were generally adopted if they would not reduce the expected annual net benefits of the rule to consumers.

B. Small Business Impact

Objectives of the Rule. The safety rule on lighters would substantially reduce the risk of accidental death and injury from residential fires started by young children playing with lighters. This would be achieved by requiring lighters subject to the rule to be child resistant. The rule primarily addresses the risk of fires started by children under age 5; during 1988-90, an annual average of 150 deaths, about 1,100 injuries and nearly \$70 million in property damage resulted from such fires. The total cost to the public is estimated at about \$385 million per year.

Voluntary industry action to address this risk was undertaken during 1989-91 by members of ASTM Subcommittee F15.02, Safety Standards for Lighters. This group includes representatives of firms producing or importing lighters, including some small firms. Work to develop a voluntary child-resistance standard was undertaken in cooperation with CPSC and the Lighter Association, Inc., a group representing several of the firms. A draft standard, similar in many respects to the CPSC mandatory rule, was developed; however, work on implementing the draft voluntary standard was suspended in 1991, and the Lighter Association requested that the Commission adopt the ASTM draft's principal provisions as a mandatory rule. Although some of the major firms now market child-resistant lighters, and would probably continue to do so in the absence of a mandatory rule, the estimated overall level of conformance to a voluntary standard would be unacceptably low.

The rule specifies a test protocol by which the child-resistance of lighters may be established. All manufacturers and importers of subject lighters must perform tests to support certificates of compliance, which must be issued for each model of lighter intended for distribution to consumers in the U.S. The rule also contains labeling, reporting, recordkeeping and other certification requirements, and anti-stockpiling provisions designed to

prevent the importation or manufacture of excessive numbers of non-complying lighters between the publication date and effective date of the rule.

The rule may save an estimated 80-105 lives per year. In addition, substantial reductions in injuries and fire-related property damage would result. Estimated annual fire losses of about \$205-270 million may be averted by the rule. The cost of the rule in terms of increased retail outlays by consumers is estimated to be about \$90 million per year. This cost reflects the likely impact on small importers whose products may be subject to the rule. Thus, approximately \$115-180 million in annual net benefits to the public would accompany the rule.

C. Public Comments

No public comments on the proposal criticized or responded specifically to the initial regulatory flexibility analysis. The comments did, however, raise economic issues bearing on the rule's potential impact on small firms. These issues include:

- the scope of the rule;
- various performance and technical requirements;
- certification and anti-stockpiling requirements; and
- the effective date.

A number of commenters recommended narrowing the scope of coverage, lowering the rule's acceptance criterion, narrowing the application of certain certification or anti-stockpiling provisions, or extending the effective date. Changes consistent with these recommendations may reduce the rule's potential adverse impact on small importers. Each of these issues is discussed in the Commission's final regulatory analysis in Section IV of this notice. The responses to the public comments are given in Section VI of this notice.

D. Significant Alternatives to the Rule

The Commission considered a number of alternatives to the rule; some of these could reduce the potential impact on small firms. The alternatives considered were:

- the scope of the rule (broader to cover more lighters or narrower to cover fewer);
- certain performance and technical requirements (acceptance criterion, testing in the U.S.);
- certification and stockpiling requirements (date coding, certificates of compliance); and
- the effective date (longer or shorter).

These alternatives are summarized in the discussion of public comments in Section VI of this notice. Generally, the Commission adopted changes in the final rule to reduce potential economic effects on small firms when such

changes would not significantly reduce expected net benefits to consumers. An example of such a change is the treatment of novelty lighters in the scope of the rule. Alternatives for which significant reductions in expected net benefits might occur were rejected. The proposal incorporated various provisions (e.g., regarding scope, acceptance criterion, and effective date) designed to minimize potential adverse impacts on small firms; these were not changed in the final rule.

In addition, the Commission considered separately the general categories of (1) labeling requirements and (2) voluntary action as alternative means of achieving the safety objective of the rule. Either of these alternatives, if substituted for the performance rule, would virtually eliminate the potential economic impact on small firms.

If the Commission issued a labeling rule instead of child-resistance performance requirements, small importers would still incur some costs of compliance, depending chiefly on whether their products were previously labeled (some are). Costs would, however, be only a small fraction of the costs likely to be attributable to the performance rule. On the other hand, no information exists that would demonstrate that labeling alone would be effective in reducing the risk of child-play fires. The number of deaths and injuries is unacceptably high, despite the fact most lighters already carry such labels. The performance rule was developed to reduce the unreasonable risk of death and injury without relying on behavioral responses to safety messages on product or packaging labels. Although it is possible a labeling rule would have net benefits to consumers, the performance rule would have much greater net benefits.

If the Commission opted to rely on voluntary action to provide safety to consumers, most of the larger firms would probably market at least some child-resistant lighters. Smaller firms would generally not, although some may market child-resistant versions of higher-priced models. Some child-resistant lighters reportedly meeting the Commission's rule were introduced in 1992, and others are expected. Almost all firms would, however, continue to offer at least some non-child-resistant models. Although a draft voluntary standard was prepared by ASTM during 1989-90, the level of voluntary conformance to that standard among lighters available to consumers is expected to be low. Although small firms would incur very low, if any, costs under this alternative, safety benefits to consumers would be substantially lower

than under the mandatory rule. Although widespread voluntary action could have significant net benefits to consumers, the CPSC mandatory rule would have far greater net benefits.

E. Conclusion

The Commission's product safety rule on cigarette lighters may have significant, temporary adverse effects on some of the 30-35 small importers. Small firms may lack the technical capability to develop or obtain complying child-resistant lighters by the effective date of the rule. Sales revenues may be lost to the extent supplies from foreign manufacturers are disrupted. Although no small importers are expected to exit the U.S. market completely as a result of the rule, some may cease shipments of some types of lighters, at least temporarily. Larger firms with greater resources to invest in the development of child-resistant lighters may gain some competitive advantage once the rule is effective; two firms already market disposable lighters that are believed to comply with the performance requirements of the rule.

The proposed rule incorporated a number of provisions designed to minimize the potential impact on small firms. These included limiting the scope of the rule to exempt categories of lighters (luxury lighters, liquid-fuel lighters) typically marketed by small firms and not presenting significant risks of death or injury; establishing a reasonable acceptance criterion attainable by most small firms; and extending the effective date to give affected firms — especially small importers — more time to develop and obtain complying products.

Some of the recommendations in the public comments on the proposal were adopted in the final rule, in order to reduce further the potential impact on small importers. For example, the definition of novelty lighters was narrowed to exclude many novelty models marketed by small firms and presenting little risk of death or injury. Changing the final rule to require qualification testing in the U.S., suggested by commenters on the proposal, will have little or no effect on small firms' costs or ability to obtain complying lighters.

Several potentially burden-reducing alternatives (e.g., further narrowing the definitions of products covered, lowering the acceptance criterion for acceptable performance, further extending the effective date) were rejected. These alternatives would either reduce the safety benefits of the rule disproportionate to potential cost reductions, or would not reduce the

burden on small firms. The final rule maximizes potential net benefits to consumers while nearly minimizing potential adverse impacts on industry, including small importers.

VI. Comments on the Proposal

A. Introduction

The public comment period on the Proposed Rule to Regulate under the Consumer Product Safety Act closed on September 16, 1992. The comment period on the Proposed Safety Standard for Cigarette Lighters closed on November 2, 1992. The comment period on the Report of Results of Child-Resistant Lighter Testing closed on March 18, 1993.

Twenty-two organizations, including the four who made oral presentations at the October 21, 1992, meeting, submitted written comments on the Proposed Safety Standard for Cigarette Lighters (one organization submitted two comments).

No commenters opposed promulgation of a final rule under the Consumer Product Safety Act, instead of under other possibly applicable Commission statutes. Fourteen commenters, including nine lighter importers, a research and development firm, the Lighter Association, Inc., and ASTM Subcommittee F15.02, Safety Standards for Lighters, specifically expressed support for a mandatory standard for child-resistant lighters.

The International Association of Fire Chiefs unanimously passed a resolution on September 18, 1992, to recognize the critical need for a comprehensive standard for child-resistant cigarette lighters and to support the CPSC's efforts to develop such a standard. The American Academy of Pediatrics submitted a letter strongly endorsing the proposed standard and requesting the standard be adopted in a most expeditious manner. The Executive Board of the South Carolina Chapter of the International Association of Arson Investigators voted to support the proposed standard.

After considering the comments and other available information, the final standard was changed to:

- modify the definition of novelty lighter;
- change the number of times the operation of the lighter is demonstrated to the children during the protocol test from three to two;
- require the tester to use each child's lighter once to conduct the demonstrations during the protocol test;
- require a photograph or videotape of the demonstration of the lighter's operation to be in the test report to

record how testers hold the lighter to conduct the demonstration;

allow protocol testing to be conducted at one or more centralized locations as an alternative to conducting testing at 5 or more day care centers;

allow more flexibility in the number of children required in each age and sex category;

require protocol testing required for certification of lighters to be conducted in the United States;

clarify the legal obligations of importers; and

change the lighter date code labeling requirement to allow a manufacturing period of 31 instead of 30 days; and provide a definition of lighter "model."

B. Comments and the Commission's Responses

A summary of the significant issues raised by the commenters and the Commission's responses is provided below.

1. *Relative risk of lighters and matches.* One commenter urged the Commission not to lose sight of the fact that matches are very available and account for a tremendous amount of fire losses and death among children under age 5. Two commenters maintained that matches are significantly more dangerous than cigarette lighters, that matches have been a greater cause of fires and fire deaths for many years, and that the CPSC's position that the risk is greater for lighters can mislead consumers. One of these commenters also stated the staff's risk analysis was based on a limited field study and on an erroneous assumption about the "accessibility" of the product to children.

The risks associated with both lighter and match child-play are matters of concern. However, the Commission believes the data used to estimate the relative risk of children playing with lighters and matches are both adequate and appropriate.

The commenters inappropriately cited CPSC fire loss data that include child-play fires started by children age 5 and older to support the argument that matches are more dangerous than lighters. Child-resistant features are likely to be most effective for addressing fires started by children under age 5. Therefore, it is appropriate to cite only data involving children under 5 when evaluating both the size of the hazard and the ability to reduce it.

Assessment of risk should consider both frequency of injury and consumer exposure to the product. The most appropriate measure in estimating risk among children under age 5 should

focus on products accessible to them. Using the number of lighters in accessible locations and the number of boxes or books of matches in accessible locations as the measure of exposure to the products, the risk of death caused by children under age 5 playing with a lighter is more than three times that of death caused by children under age 5 playing with matches.

2. *Effective date.* The proposed rule specified an effective date of 12 months from the date of publication of the final rule in the *Federal Register*. Two commenters requested prompt issuance of a final rule with an effective date by January 1, 1994, the effective date for state laws requiring child-resistant lighters in California and New Jersey.

One commenter requested a 30-month effective date (from the date a final rule is issued) to allow small manufacturers time to make necessary tooling or other production changes, and to allow sufficient time for importers to obtain complying lighters.

By the time a final rule is promulgated, a 6-month effective date would be required to coincide with the effective date of the state laws. The Commission believes a 6-month effective date would place an unreasonable burden on manufacturers and importers, especially small firms.

The 30-month effective date suggested by the commenter might further reduce the burden of the rule for some small firms but would result in a significant delay in achieving the full measure of benefits to consumers.

The effective date in the proposed rule was set at 12 months to minimize the likely adverse impact on small firms, while delivering the safety benefits of a rule to the public as expeditiously as possible. Most small firms would be able to obtain and market complying lighters within 12 months. The Commission believes a 12-month effective date will not have substantial long-term adverse effects on the profits or continued viability of small firms — most of which also produce or import products other than lighters.

3. *Scope of the standard.* The proposed rule covers "disposable" and "novelty" lighters. The proposed definition of disposable lighters included nonrefillable lighters and inexpensive refillable butane lighters (those under \$2.00 in Customs Valuation if imported or under \$2.00 in ex-factory price if manufactured domestically). The proposed definition of novelty lighter covered lighters resembling any other object in physical form or function. The proposed rule did not include any liquid-fuel lighters or

refillable butane luxury lighters (\$2.00 or more in Customs Valuation or ex-factory price).

a. *Luxury lighters.* One commenter supports the exclusion of luxury lighters from the scope on the basis they do not present an unreasonable child-play fire risk. The commenter stated the economic burden of the rule would be significantly greater if luxury lighters were covered due to the expense of changes in tooling to incorporate child-resistant features on lighters with limited production.

Another commenter stated all lighters sold in the United States should be covered by the standard. The commenter believes that luxury lighters present a greater hazard than described in the proposed standard due to their long useful lives. The commenter believes the Commission understated the benefits and overstated the costs of including luxury lighters in the proposed standard. This commenter stated that the Commission's estimate of a \$5.00 maximum per-unit price increase from making certain liquid-fuel luxury models child resistant is too high.

Luxury lighters account for an estimated two percent of residential structural fires started by children under 5 years of age and for approximately 5 to 8 percent of lighters in use in the United States. This indicates that luxury lighters have a relatively low risk of involvement in lighter fire incidents, despite their long useful lives. The Commission is not aware of any deaths or injuries involving children under age 5 playing with luxury lighters that are currently on the market. The one death the staff is aware of involved a lighter with a unique operating mechanism. This lighter, which sold in low numbers, was withdrawn from the market in 1991.

The Commission believes the \$5-10 million estimate of additional benefits for a rule including luxury lighters is generous rather than underestimated. The estimate assumes some deaths and injuries related to luxury lighters would be addressed by the rule.

The latest available industry information indicates that \$1.00-3.00 would be a more appropriate range of per-unit retail cost increases for child-resistant luxury lighters. The best current estimate of the number of luxury lighters affected is 15-20 million units. Even using the most conservative cost increase of \$1.00 per unit, for 15 million units, the total additional annual cost of a rule including luxury lighters would be approximately \$15 million.

Therefore, the estimated annual net benefits of a rule that included luxury

lighters would still be \$5-10 million less than a rule covering only disposable and novelty lighters.

b. *Definition of disposable lighters.* Six commenters discussed the cost cutoff in the definition of disposable lighter. Two of these commenters supported the proposed definition, which requires refillable lighters under \$2.00 in Customs Valuation or ex-factory price to be child resistant. Three commenters recommended a \$1.00 cutoff, and one commenter recommended a \$4.00 cutoff.

The cost cutoff in the proposed rule of \$2.00 in Customs Valuation or ex-factory price covers refillable butane lighters the Commission considers to be reasonable, price-competitive substitutes for child-resistant nonrefillables. Complying nonrefillables are expected to retail for about \$0.50-4.00. The vast majority would retail for under \$3.00. Non-child-resistant refillables currently retail for as low as \$1.00; many models retail for \$3.00 or less. Under the proposed \$2.00 cost cutoff, non-child-resistant models would probably not retail in significant numbers for less than about \$5.00.

With a \$1.00 cost cutoff, the majority of currently-available refillable lighters the Commission considers to be price-competitive with nonrefillables would not be covered by the rule. The least expensive non-child-resistant lighters could realistically be sold at retail for \$3.00, a level considered price-competitive with some nonrefillables. Consumers might substitute significant numbers of such non-child-resistant lighters for complying lighters. In addition, a \$1.00 cutoff may encourage manufacturers to add refill ports to nonrefillable lighters, at reportedly little cost or effort, to circumvent the rule. Such a practice is more likely at the \$1.00 level since the lighters could be competitive with a larger proportion of complying lighters. Although the cost of the rule would be reduced with a \$1.00 cost cutoff, the potential benefits could be reduced significantly. Estimated annual net benefits would probably be reduced by up to about \$5 million.

With a \$4.00 cost cutoff, the possibility that noncomplying refillable lighters could be sold at retail prices approaching those of nonrefillables would be minimized. Many refillable lighters the Commission does not consider to be price-competitive with nonrefillables would be covered. Up to 4-5 million additional units, including many retailing for over \$15, could be subject to the rule. Up to about \$8-10 million could be added to the annual cost of the rule to consumers. Given the small number of deaths and injuries

associated with any luxury lighters, it is unlikely the benefits of the rule would be greatly increased. Even if potential additional benefits were generously estimated at up to \$10 million, expected net benefits would not significantly increase, and could decrease slightly. In addition, a \$4.00 cutoff would have significant disruptive effects on the sales of small importers of moderately-priced refillable lighters, and on the availability of such lighters to consumers.

Issuing the rule with the proposed cost cutoff of \$2.00 in Customs Valuation or ex-factory price would minimize potential consumer substitution of non-child-resistant lighters for complying models, without imposing a substantial economic burden on small businesses and without penalizing firms marketing complying lighters. The estimated annual net benefits of the rule would probably also be maximized. The Commission believes the proposed \$2.00 cutoff provides the most reasonable balance of safety and commercial interests.

c. Liquid-fuel lighters. One commenter stated that inexpensive liquid-fuel lighters should be covered by the rule to prevent low-cost non-child-resistant liquid-fuel models from being substituted for complying lighters.

The Commission does not consider liquid-fuel lighters to be close substitutes for nonrefillable disposable lighters. Liquid-fuel lighters may be viewed as inconvenient to refill, do not use pressurized butane fuel, do not contain fuel when purchased, may have different, less convenient ignition mechanisms, are not sold in multi-packs, and, in general, are more expensive. Unless child-resistant butane lighters are very difficult to use, it is unlikely consumers would give up the convenience of butane lighters for non-child-resistant liquid-fuel lighters. The Commission believes that manufacturers in the highly-competitive lighter market will assure their child-resistant lighters are convenient to use.

The additional safety benefits for a rule including inexpensive liquid-fuel lighters would be negligible. The Commission is aware of one child-play fire death and one injury over the past 10 years involving a liquid-fuel lighter.

The cost of the rule to consumers would increase by up to approximately \$1-5 million; many such lighters would probably be discontinued if required to be child resistant. Including inexpensive liquid-fuel lighters could decrease the estimated annual net benefits of the rule slightly.

d. Definition of novelty lighters. One commenter supported the definition of

novelty lighter in the proposed rule, which is any lighter that resembles any other object in physical form or function. Four commenters asserted that the proposed definition is too broad or too subjective. One of the four recommended a definition that would include lighters with shapes that resemble toys or adult products, such as watches, that are adapted to toy-like uses. This commenter is concerned that regular lighters, if adorned with graphics, might be considered novelty lighters. The other three commenters supported the draft ASTM voluntary standard definition that was submitted to the Commission by the Lighter Association in July 1990. The ASTM novelty definition includes lighters that resemble a product "normally associated with children playing."

Two commenters requested a definition that excludes from the rule those novelty lighters whose Customs Valuation or ex-factory price is \$1.00 or more and suggested that the industry could voluntarily incorporate a manual on-off switch for novelty lighters that are not required to be child resistant.

The Commission's primary intention is to assure that the scope of the rule includes novelty lighters that appeal to children. The Commission agrees that the proposed definition could include some lighters, such as crystal vases, that would not necessarily appeal to young children. Although the Commission did not use the draft voluntary standard definition of novelty lighter in the proposed rule, it did revise the scope of the definition to more closely distinguish the lighters that present higher risks from child-play.

The suggested cost cutoff of \$1.00 for novelty lighters is not appropriate because most novelty lighters, including many considered to be appealing to children, are above \$1.00 in Customs Valuation. The concept of a definition limited to the shape of the lighter is not acceptable because the Commission believes that lighters with appealing logos or graphics also are likely to be played with by children and thus should be considered novelty lighters. In addition, the Commission believes lighters with entertaining audio or visual effects, such as music or flashing lights, also would appeal to children and should be covered. Such lighters may not have modified shapes.

After considering these comments, the Commission developed the following revised definition: Novelty lighter means a lighter that has entertaining audio or visual effects, or that depicts (logos, decals, art work, etc.) or resembles in physical form or function articles commonly recognized as appealing to or

intended for use by children under 5 years of age. This includes, but is not limited to, lighters that depict or resemble cartoon characters, toys, guns, watches, musical instruments, vehicles, toy animals, food, or beverages, or that play musical notes or have flashing lights or other entertaining features.

The Commission's staff for many years has provided guidance on age appropriateness of toys and children's products in support of regulations under the Federal Hazardous Substances Act. The staff is prepared to make similar interpretations about the appeal of novelty lighters to children under 5.

Any reduction in potential safety benefits of a rule with the revised definition would be slight. The Commission is aware of no deaths or injuries involving novelty lighters that were covered by the proposed rule but that are not included in the revised definition. Lighters in the form of a cigarette pack and a gold brick, which were involved in child-play fire incidents, would have been covered under the proposal but will not, by virtue of their appearance alone, be covered under the revised novelty definition. However, these particular lighters would have been within the scope of the final rule because they are disposable because they either were nonrefillable or were refillable butane and under \$2.00 in Customs Valuation or ex-factory price.

The Commission supports a revised definition largely because the burden on importers, particularly small importers, would be reduced without reducing the expected net benefits of the rule. If finalized, the definition that was proposed might result in the discontinuation of many, if not most, novelty lighters. Although the revised definition might also result in the discontinuation of many novelty lighters, it would allow a continued market for a larger number of novelty lighters.

Excluding some novelty lighters from the scope of the rule may reduce the annual cost of the rule to consumers by up to \$1 million. The impact on annual net benefits would likely be negligible.

The revised definition of novelty lighter is at § 1210.2(d) of the final rule.

4. Test protocol. The rule requires subject lighters to be tested using panels of young children. The lighters are considered child resistant if at least 85 percent of the children are unable to operate them during a 10-minute test period.

a. Acceptance criterion. Three commenters supported the proposed 85 percent acceptance criterion. Two of the

three strongly opposed an acceptance criterion above 85 percent, stating that it would be an unreasonable burden on the industry.

One commenter requested that the Commission reduce the acceptance criterion to 65 percent because small firms with less technical resources to develop child-resistant lighters may be at a competitive disadvantage.

One commenter stated that no child under the age of 5 should be able to activate a lighter, implying a recommendation for a 100-percent acceptance criterion.

The commenters provide no basis for reducing the acceptance criterion to 65 percent or for increasing the acceptance criterion to 100 percent. A 65 percent acceptance criterion would not adequately reduce the risk of fires started by young children, since the average child resistance of currently marketed, non-child-resistant lighters is about 50 percent.

The child-resistant lighter test results clearly support the feasibility of an acceptance criterion of 85 percent. The data do not support the feasibility of an acceptance criterion of 100 percent. A lighter that no child under 5 could operate would likely be very difficult for adults to operate as well. In order for child-resistant lighters to address the risk of injury most effectively, adults must be willing to use them. If adults are unable or unwilling to use child-resistant lighters, they may switch to available non-child-resistant lighters.

Minimizing the potential for adverse competitive effects on small firms was considered when the 85-percent acceptance criterion was recommended; 85 percent is the highest acceptance criterion the Commission considers technically and commercially feasible for most firms.

b. Definition of successful operation. Three commenters opposed the proposed one-signal definition of successful operation and recommended a two-signal definition. These commenters argued that one instantaneous activation does not indicate a child's ability to start a fire and that electronic surrogate lighters may produce erroneous signals. One of the commenters stated that a change from a two-signal definition to one-signal definition can make as much as a 12 percent difference in the test results and can mean the difference between a lighter passing or failing the 85 percent acceptance criterion requirement.

One commenter supported the proposed one-signal definition. This commenter's testing experience shows a high percentage of the children who

operated the lighter once operated it a second time.

The Commission does not find arguments against defining successful operation as one signal of the lighter persuasive. The final report of the results of the Commission's child-resistant lighter testing shows the majority (75 percent) of the children who operated the lighters once were able to operate the lighters a second time. Therefore, although a brief signal may not represent maintenance of a flame, it is a strong predictor of future success.

The test protocol procedures guard against reporting an erroneous signal as a successful operation. The tester is required to verify the surrogate lighter is functioning properly by operating the lighter before and after each child participates. In addition, if the tester hears a signal during the test without the child actually overcoming the child-resistant mechanism, the data for that child are eliminated from the test and replaced with results from another eligible child.

The statement by the commenter about one manufacturer obtaining a 12 percent difference in results between one and two operations also is not persuasive. These data appear to support a one signal definition as a more stringent requirement. In any event, the commenter did not supply sufficient data for any independent evaluation to be made of the possible reasons for a 12 percent difference, which is not consistent with the results from Commission-sponsored testing.

c. Number of demonstrations of lighter operation. Four commenters stated there is no adequate basis for requiring three demonstrations of lighter operation as proposed. They state the low number of successes after one demonstration in the child-resistant lighter test results is insufficient justification. The commenters state that there is no evidence that three demonstrations will enhance the safety of lighters.

Two commenters with experience conducting cigarette lighter testing supported the need for more than one demonstration to assure that the children have observed the lighter operation. However, one of these commenters expressed concern that three demonstrations is too stringent because it encourages the children to concentrate on the lighter in an unnatural fashion. The commenter stated the first demonstration serves to attract the children's attention with the "noise." The second demonstration shows them where to focus their attention, and the third demonstration

literally teaches them how to use the lighter. This commenter recommended two demonstrations.

The final report of the results of the child-resistant lighter tests shows that, although more children were successful after three demonstrations than after one demonstration, the differences are not statistically significant. In addition, for the lighters tested, the number of demonstrations does not affect the final result — whether a lighter meets, or fails to meet, an 85 percent acceptance criterion. Although these data do not support the need for three demonstrations, the Commission believes it is important to assure that the children are provided with an adequate opportunity to observe lighter operation. The two demonstrations recommended by one commenter would accomplish this objective. The Commission revised § 1210.4(f)(3) of the final rule to require two demonstrations.

d. Conducting the demonstration. One commenter stated that the requirement in the proposed standard to use one of the children's lighters to conduct the demonstration could bias the test results. If the other child is disappointed because the tester did not operate his or her lighter too, the child's frustration may affect his or her performance in the second 5-minute period. This commenter recommended using a separate lighter to conduct the demonstration.

A second commenter recommended the tester demonstrate the lighter while kneeling between the two children being tested to assure that the children have a normal view of the operation and the child-resistant mechanism is not hidden from view.

A third commenter recommended specific guidelines for orientation of the lighter during the demonstration to assure uniformity among the testers. This commenter also recommended that, after one demonstration, the children switch places for the second demonstration, since one child may be on the opposite side of the child-resistant feature.

The purpose of using one of the children's lighters for the demonstration is to assure them the lighters they are using will make the signal. When a separate lighter is used to conduct the demonstration, some children still want the tester to try their lighter. To address the concern of potential bias, each child's lighter can be demonstrated one time in conducting the two demonstrations in the test procedure. This will assure each child that his or her own lighter is capable of making the signal.

Conducting the demonstration from a position between the children may not be the best orientation for all lighters. It would also be difficult for the tester to verify the children are watching the demonstration since he or she will be behind the children. Having the children switch places would assure both children have observed the mechanism from the same perspective. However, switching has the potential for adding confusion to the test and may result in mixing up the children's lighters and/or the data corresponding to each child. Accordingly, the Commission has not included these requirements in the final rule. However, the Commission has included more specific requirements for orientation of the lighter.

Revised § 1210.4(f)(3) of the final rule requires the use of each child's lighter once during the two demonstrations.

e. Documentation of the demonstration. One commenter recommended that the test require a photograph to be taken to show how the lighter is held during the demonstration.

Since how the demonstration is conducted could be critical to the test's ability to determine whether a lighter is child-resistant, the Commission decided to include such documentation in the qualification testing records required under § 1210.17(a). As an alternative to a photograph, a video tape would also be acceptable. For the same reason, the Commission decided to include documentation of the orientation of the tester's body and hand to the children during the demonstration. Revised sections 1210.5(g) and 1210.17(a) of the final rule require such documentation of the demonstration. Section 1210.5(g) has been revised to include conditions intended to ensure that any video taping or photographing does not distract the children during the test.

f. Number of testers and maximum and minimum number of children per tester. One commenter recommended that the five or six testers required in the proposed standard be reduced to three testers for each 100-child test panel.

A second commenter recommended allowing a 20 percent maximum number of children per tester whether 5 or 6 testers are used. This would preclude exceeding the maximum allowance when a test is begun with 5 testers (proposed maximum of 20 +or- 2 children), but completed with 6 testers (proposed maximum of 17 +or- 2 children), if one of the original 5 testers drops out because of illness or some other reason.

No rationale is provided for the recommendation for three testers instead of five or six. The results of the

Toronto retest in the verification testing were affected by one tester (out of six) who was particularly adept at obtaining the children's cooperation. That tester, who conducted 30 percent of the test, had an excessive effect on the success rate. In order to minimize the potential for bias, the Commission determined the number of children tested by an individual tester should be approximately 20 percent of the panel for 5 testers, or approximately 17 percent of the panel for 6 testers.

The Commission does not support a revision to allow a maximum of 20 percent for all tests. Such a revision would be restrictive, since it would require each of 5 testers to test exactly 20 children. Currently, each tester of five is allowed to test 20 +or- 2 children (i.e., 18, 19, 20, 21, or 22 children). This flexibility facilitates expeditious testing and allows totals to be an odd number (i.e., 19 or 21) for circumstances where results for one child in a pair are dropped from the test. However, there is a need to address the very likely situation where a test is initiated with five testers but completed with six testers. When testing is initiated with 5 testers, no tester should test more than 19 children until it is certain that the test can be completed with 5 testers. This will preclude exceeding the maximum requirement in case six testers are needed.

The Commission added a "Note" to § 1210.4(b)(3) to discuss how the protocol applies to the circumstances when a tester drops out.

g. Number of surrogate lighters. One commenter asked (1) can the same 6 surrogate lighters be used in more than one 100-child panel and (2) if a surrogate lighter is damaged during testing, should it be replaced with an additional surrogate lighter or should the testing continue with less than 6 surrogate lighters?

If the surrogate lighters meet all of the requirements in § 1210.4(c), they may be used in more than one 100-child panel test. If a surrogate lighter is permanently damaged and/or no longer represents the production lighter intended for use, testing should continue using the remaining lighters.

To address these issues, and to make the minimum and maximum requirements equivalent to the requirements for testers, the Commission revised § 1210.4(c) in the final standard.

h. Test site. One commenter requested a modification of the test site requirement to allow testing at centralized locations.

The Commission agrees that this alternative methodology would improve

the efficiency of test completion; accordingly, the Commission revised the final rule to allow testing at centralized locations. If a central facility is allowed, it is important the participating children be drawn from various locations throughout the geographical area to achieve the same objective as multiple test sites — varied economic and social backgrounds. Accordingly, the Commission included this limitation on the use of centralized locations in the final rule.

In order to accommodate a central test facility, the Commission revised § 1210.4(b) of the final standard.

i. Test environment. One commenter recommended the test be conducted with the children sitting on the floor, but with a table in the room so they can use it if desired.

The Commission does not support conducting the test with the children sitting on the floor. The purpose of seating children a specified distance apart at a table is to standardize the test and to facilitate the interaction of the tester with the children. The test procedure at § 1210.4(b)(2) does allow children freedom of movement to work with their lighters, so long as the tester can watch both children at the same time. Therefore, a child could get down on the floor and roll the lighter if he or she chose to.

The Commission revised the test environment requirement to change the specified distance between the children's chairs from 1.5 feet to 6 inches. In actual practice, the testers place the children approximately 6 inches apart in order to better observe both of the children. The Commission revised § 1210.4(b)(2) of the final rule accordingly.

j. Age and sex distribution of child-test panel. One commenter requested some flexibility in the age and sex quotas in the child-test panel. The commenter suggested the quotas allow for +or- 1 child in each age and sex category.

Allowing flexibility in the age and sex quotas is acceptable and would help expedite completion of test panels. To address this request, the Commission revised § 1210.4(a)(4) of the final rule. To ensure uniformity, the Commission also added a "Note" to provide a formula for calculating a child's age in months.

k. Panel size. One commenter supported the requirement in the proposed standard for a 100-child test panel.

A second commenter requested that the test be conducted with sequential panels of 50 children each, instead of 100 children each, in order to ease the

burden on testing organizations as well as providing efficient testing for manufacturers.

Sequential testing has been used successfully with panels of 50 children to test child-resistant packaging under the Poison Prevention Packaging Act. Initially, 50-child panels were also considered for cigarette lighter testing. During the statistical analysis of the verification testing, the effect of panel size on success rates was evaluated. Panels of 50 were significantly different, while panels of 100 were not. Due to the potentially higher variability associated with lighter testing than with child-resistant packaging, the Commission increased the panel size to 100 children. There is currently no basis for changing this provision.

1. *Testing in countries outside the United States.* Five commenters expressed concern about the comparability of results from testing outside the United States with results from testing within the United States. Two of the commenters were concerned that the differences in cultures, educational systems, laws, and attitudes of the various countries manufacturing lighters will make it difficult to achieve comparable results. Two commenters were concerned about the differences in abilities of children from different countries, since children in many countries outside the United States are not exposed to the types and variety of mechanical devices, toys, video games, etc., available in the United States that require a high degree of hand-eye coordination and problem-solving abilities.

Most of these commenters stated that the Commission should require testing to be performed in the United States in order to ensure compliance with the rule.

One commenter did not oppose testing outside the United States. However, this commenter recommended that foreign testing laboratories be approved (certified) by the Commission. Several other commenters also suggested testing be conducted by certified laboratories that have met criteria established by the Commission.

The Commission shares these commenters' concerns. Cultural differences, such as attitudes about fire, may influence the testers and/or the children and bias the test results. The potential for bias is a substantial concern, since tester bias was identified as a significant influence on test results during verification testing conducted in Canada. The proposed rule attempts to address this issue by requiring at least one test of a lighter in both the U.S. and the other country to confirm that results

equivalent to those obtained in the United States can be obtained in the other country. Under the proposal, tests of other lighters could then be performed in the other country. However, restricting testing to the United States is the only certain way to assure the results represent the capabilities of children in the United States to operate lighters.

The Commission agrees that restricting testing to the United States would facilitate enforcement of the rule. The Commission staff can visit domestic testing firms, witness tests, and question testers and test subjects. Records and personnel of foreign testing firms are not subject to the Commission's authority.

The Commission is not planning to develop a program to certify or accredit testing facilities. The Commission would support the development of such a program by the Lighter Association, Inc., or other interested parties. The Commission does plan to conduct programs to educate manufacturers, importers, and testing organizations about the requirements of the rule.

Restricting testing to the U.S. would result in virtually no adverse impact on small firms. This is because: (1) testing costs are similar either in or out of the U.S., (2) all firms, including small firms, would have access to test facilities or services in the U.S., (3) testing costs are a minor portion of total compliance costs, and (4) there would be no effect on the availability of child-resistant lighters to the public. In view of this lack of impact and the possibility that not restricting testing to the U.S. could bias the test results, the Commission revised § 1210.4(a)(3) and § 1210.4(b)(2) of the final rule to restrict testing to the United States.

m. *Lighter label.* Two commenters recommended a requirement for a mandatory permanent warning label on the lighter stating "Keep lighters out of the reach of children." One of the commenters also recommended an information label to inform parents and care-givers that complying lighters are only 85 percent child resistant for children up to 51 months of age. One of the commenters stated the labeling requirement in the ASTM voluntary standard is not sufficient because it allows the warning label to be on the package, which is often discarded.

As stated in the preamble to the proposal, most lighters or their packaging, including virtually all disposables, are already labeled "keep away from children." ASTM Subcommittee F15.02, Safety Standards for Lighters, just completed revisions of the voluntary standard, ASTM F-400, to strengthen and emphasize this warning.

The Commission does not see a need for an additional, and potentially confusing, warning that complying lighters are only 85 percent child resistant for children up to 51 months of age. The warning required by the voluntary standard is intended to inform parents and care-givers to keep lighters away from children of all ages. Although a mandatory label would not add significantly to manufacturers' costs, the benefits may also be negligible. To the extent that labeling would be effective, the benefits should be achieved by voluntary compliance with ASTM F-400.

n. *Consumer education.* One commenter asked the Commission to remember to continue efforts in the area of consumer education to further reduce the number of child-play fire incidents.

The Commission intends to take part in an aggressive and comprehensive public information and education campaign to increase consumer awareness of the involvement of lighters and matches in child-play fires. This information will make consumers aware of the availability and beneficial effects of child-resistant lighters. Consumer acceptance is critical to the effectiveness of the standard.

o. *Two-motion feature.* One commenter stated that single-motion child-resistant devices provide an unnecessarily low level of safety and recommended requiring the child-resistant mechanism to operate consecutively in at least two different directions. The commenter stated that well-known knowledge of child behavior provides the basis for this recommendation. The commenter submitted several patents for child-resistant designs to show the state of the art supports the recommended requirement.

This commenter does not provide facts to show a two-direction action is necessary to address the risk of injury associated with children playing with lighters. The recommended action is one of many effective child-resistant strategies described in the March 1988 COMSIS Corporation report "Abilities of Young Children to Operate Butane Cigarette Lighters." In addition, a lighter design that does not require a two-direction action exceeded the proposed 85 percent acceptance criterion in the Commission child-resistant lighter testing. The final rule is based on the conclusion that the child-panel testing is an adequate measure of the child-resistant effectiveness of a lighter design. The Commission can see no reason to limit the range of designs that could be utilized by imposing specific design requirements in the rule. Lastly,

and dispositively, section 7(a)(1) of the CPSA requires that, for other than labeling, warning, and instructions requirements, a "consumer product safety standard shall consist of ... [r]equirements expressed in terms of performance requirements." 15 U.S.C. 2056(a)(1). This statutory prohibition prevents adoption of this commenter's suggestion for a two-motion child-resistant mechanism.

p. Lighter flame characteristics. A commenter noted that the casualty rates in child-play fires started by children under 5 were higher for lighters than matches, and suggested that excessive lighter flame height or contaminated gas could be factors.

This commenter does not provide data to show that specifications for flame height or fuel composition would address the child-play hazard. Available investigative data indicated that, on average, children who started fires with lighters were younger than those who started fires with matches. This difference in age may indicate that once a fire has started, fewer of the children who started fires with lighters were able to respond to prevent injury or death than were the older children who started fires with matches. This could contribute to the higher casualty rates in lighter child-play fires.

In addition, the ASTM standard — F400, Consumer Safety Specification for Lighters — includes requirements for flame height and for the characteristics of the fuel mixture. Since conformance to this voluntary standard is reported to be high, many lighters currently on the market already meet such requirements.

5. Certification requirements.

a. Legal obligations of the importer. One commenter noted that different provisions of the certification requirements state "either the manufacturer or importer" or the "manufacturer and importer" have certain responsibilities. They requested clarification of who specifically is responsible.

For imported lighters, the importer is responsible for the certification that the lighters comply and for compliance with the appropriate certification label, testing, and recordkeeping requirements. Although importers may meet these obligations through actions by the foreign manufacturer, the importer is legally responsible for the products that it imports. (The Commission does not have jurisdiction over the manufacture of products in foreign countries, as such. Section 3(a)(4) of the CPSA defines the term "manufacturer" as including importers. 15 U.S.C. 2052(a)(4).) The Commission

made minor changes to § 1210.12(a)(1) to clarify the role of the importer.

b. Certificate of compliance. One commenter asked whether the certificate of compliance can be printed on the shipping carton. Another asked whether a certificate of compliance is required for lighter samples. Three commenters stated that requiring the date(s) of manufacture on the certificate of compliance is unduly burdensome because any shipping unit may contain lighters manufactured on many different dates. The commenters questioned the need for this requirement, since each individual lighter is date coded.

As long as the shipping carton is the shipping unit sent to distributors or retailers, or is included within the shipping unit, the practice of printing the certificate of compliance on the shipping carton is acceptable.

The standard applies only to lighters that are consumer products, i.e., those that are intended for consumers, or that are likely to be distributed to consumers more than occasionally. 15 U.S.C. 2052(a)(1). Samples shipped to distributors or retailers (for example, as promotional items not intended for resale), would not require a certificate of compliance unless they meet these criteria.

Section 14 of the CPSA states that a certificate of compliance shall include the date of manufacture. In addition, date(s) on the certificate of compliance will facilitate the identification of suspect merchandise in the event of a recall. Manufacturers may meet this requirement by providing a range of production dates. With proper inventory control, manufacturers should be able to identify the date(s) of manufacture at the time the lighters are boxed for shipping.

c. Lighter date code labeling requirement. One commenter requested a change to the lighter labeling requirement to allow a 31-day manufacturing period instead of the proposed 30 days, so calendar months can be used in date codes. The commenter also asked if the identification of the manufacturer can be met by the current industry practice of stamping the name on the plastic or metal lighter case.

The Commission changed the requirement, at § 1210.12(c)(1) in the final standard, to 31 days. The current practice of identification of the manufacturer on the lighter, described by the commenter, is acceptable.

d. Definition of lighter "model." One commenter recommended defining "model" in terms set forth under section 37 of the CPSA to identify the lighters a manufacturer must test. Section 37

defines model as "one that is distinctive in functional design, construction, warnings or instructions related to safety, function, user population, or other characteristics which could affect the product's safety related performance." 15 U.S.C. 2084(e)(2).

The section 37 definition is unsuitable since it does not provide specific guidance on which variations in the design of lighters could affect child resistance. However, the Commission added the following definition of model at § 1210.2 of the final standard:

A "model" is one or more cigarette lighter(s) from the same manufacturer or importer that do not differ from each other in design or other characteristics in any manner that may affect child resistance. Lighter characteristics that may affect child-resistance include, but are not limited to, size, shape, case material, and ignition mechanism (including child-resistant features).

The Commission also revised § 1210.15 to require the product specification to include the model name(s) or number(s) that correspond to the surrogate lighters used for qualification testing.

e. Qualification testing. One commenter requested a revision to the provision that requires new qualification testing if a corrective action changes the product in a manner that could affect its child-resistance. They suggest new testing is only required if the change "adversely" affects the child-resistance.

The Commission made this clarification in § 1210.14(b) but notes the manufacturer or importer must be able to establish that a change will not adversely affect child resistance. A similar clarification has been added to § 1210.14(a) to make it clear that a model that differs from a previously qualified model only by differences that do not have an adverse effect on child resistance need not be separately qualified.

f. Production testing. One manufacturer requested a modification to the production testing provision that would allow manufacturers to continue distribution of lighters unless a "statistically significant" population of failures is identified.

Such a modification is not necessary, because the provision allows manufacturers to devise production testing programs that work best for their products. The Commission encourages firms to use rigorous, statistically based quality assurance systems to ensure compliance with the standard. If the manufacturer's system discloses a real possibility that the product does not comply, manufacturing should cease

until corrective measures have been taken.

h. Production records. Two commenters requested that manufacturers be allowed to maintain production records in languages other than English and provide translations within thirty days of a Commission request instead of one week.

The Commission does not support these changes. Most production records are likely to be forms, which could be bilingual to allow employees to record data in a manner that can be understood by both the firm's employees and the Commission's staff. In addition, Commission staff may need to review records expeditiously if a potentially noncomplying product is being held at a Port of Entry by the U.S. Customs Service. Under the procedures governing cooperation between the CPSC's staff and Customs, staff must notify Customs within two weeks if a product violates a Commission rule.

i. Reporting. One commenter requested that the reporting provision be changed to delete the requirement for submission of surrogate lighter specifications at least 30 days before importation. The commenter stated that such specifications are sensitive, confidential commercial information and could be provided during an inspection if required by the Commission.

The Commission does not support this change. The specifications are important for the staff review of lighters being introduced into commerce. The Commission has established extensive procedures under section 6(a) of the CPSA to safeguard trade secret information. 16 CFR 1015, Subpart B. Trade secret specifications would be protected from public disclosure.

j. Authority to request records. One commenter requested that the provision requiring manufacturers or importers to provide records to "any designated officer or employee of the Commission" be changed to "employees of the Commission authorized or designated under 15 U.S.C. § 2065(a) to make inspections of firms."

The Commission believes that this revision would be too limiting. Legitimate requests for records may also be made by other field or headquarters staff charged with responsibility for monitoring compliance with the standard.

k. Confidentiality. One commenter requested clarification of the confidentiality provisions to provide automatic confidential treatment of production records and product specifications submitted to the Commission.

The Commission can withhold records only if the records fit into one of the exceptions to the Freedom of Information Act. Bona fide trade secrets fit into one of these exceptions. 5 U.S.C. 552(b)(4). A blanket finding of confidentiality cannot be added to the rule, because a determination of whether production records and product specifications are trade secret depends on each firm's handling of such information.

6. Anti-stockpiling. The proposed rule includes anti-stockpiling provisions designed to prevent the importation or manufacture of excessive numbers of noncomplying lighters between publication of the final rule and the effective date.

One commenter requested the Commission to exempt all refillable lighters, including novelty lighters, from the anti-stockpiling rule in cases where there are actual purchase orders to be filled. The commenter stated that the market share of these lighters is insignificant compared to the total amount of lighters produced. The commenter stated that for the smaller companies involved in this market, the filling of purchase orders during this period is crucial.

The Commission has not exempted refillable lighters, including novelty lighters, from the anti-stockpiling provisions. If such an exemption were provided, reductions in the safety benefits of the rule could result in the short term (1-2 years after issuance of a final rule) if large sales of noncomplying refillable lighters increased the proportion of non-child-resistant lighters available to consumers. Although some small firms experiencing significant sales growth may be limited by these provisions, the adverse impact would probably not be substantial. The stockpiling provision allows each firm to produce or import, during the 1-year period between publication of the final rule and its effective date, a total number of noncomplying "disposable" and "novelty" lighters that does not exceed 120 percent of the total number of such lighters produced or imported during any 1-year period during the 5 years prior to the publication date of the final rule. So long as the overall 120 percent limitation is observed, the number of lighters of a given model or type could exceed 120 percent of the number of lighters of that model or type during the 1-year base period chosen by the manufacturer or importer. The stockpiling rule does not limit the number of lighters that comply with the rule that are manufactured or imported prior to the rule's effective date.

7. Lighters as packages of fuel. One commenter objected to the Commission's statement in the proposal that a "cigarette lighter meets the definition of the term 'package' in section 2(3) of the PPPA, 15 U.S.C. 1471(3), because it is the 'immediate container' in which a hazardous substance is contained for use by individuals in a household." The commenter argues that the PPPA was intended primarily to address poisonings and that a lighter, instead of being a package, is a mechanical device intended to produce a flame.

Commission jurisdiction under the PPPA extends to any "household substance, which means any substance which is customarily produced or distributed for sale for ... use, or customarily stored, by individuals in or about the household and which is — (A) a hazardous substance as that term is defined in section 2(f) of the [FHSA] (15 U.S.C. 1261(f)" The FHSA confers jurisdiction over a number of hazards in addition to toxicity, including that the substance "is flammable or combustible ... [or] generate pressure." Thus, hazards other than poisonings can be addressed under the PPPA.

The Commission agrees with the commenter that a lighter can be viewed as a mechanical device intended to produce a flame. That is largely the reason the Commission decided to regulate lighters under the CPSA, rather than under the PPPA or FHSA, as to *the risk of children starting fires by operating lighters during child-play*. However, this does not detract from the fact that the lighter meets the definition in the PPPA of a package for the butane fuel, which is a hazardous substance. The Commission points out, however, that there is no requirement issued under the PPPA that would apply to lighters.

8. Preemption. A commenter expresses concern that some state regulations may prohibit the sale of stockpiled non-child-resistant lighters after the effective date of CPSC's safety standard. The commenter requests that the following statement be incorporated into § 1210.1 of the standard: "These requirements are intended to eliminate diverse, nonuniform and confusing state and local laws and regulations relating to the child resistant performance of disposable and novelty lighters."

Section 26(a) of the CPSA, 15 U.S.C. 2075(a), provides: "[w]henver a consumer product safety standard under this Act is in effect and applies to a risk of injury associated with a consumer product, no State or political subdivision of a State shall have any authority either to establish or to

continue in effect any provision of a safety standard or regulation which prescribes any requirements ... which are designed to deal with the same risk of injury associated with such consumer product, unless such requirements are identical to the requirements of the Federal standard" (emphasis added). Because the standard allows the sale after the effective date of properly stockpiled disposable and novelty lighters manufactured before the effective date, a state regulation could not be applied to prevent the sale of such lighters after the standard's effective date. Thus, the statement requested by this commenter is unnecessary.

VII. Environmental Assessment

Pursuant to the National Environmental Policy Act and in accordance with CPSC's procedures, consideration was given to the potential environmental effects of the consumer product safety rule for lighters.

Most of the over 600 million lighters sold annually in the U.S. and subject to the rule are imported; only one firm presently manufactures lighters that will be subject to the rule in the United States. To achieve compliance with the rule, most producing firms will likely add mechanical child-resistant features to their products. Some models of lighters, accounting for less than one percent of all lighter shipments, may be discontinued as a result of the rule. The rule is prospective in nature, and will not require the recall, destruction, or disposal of existing units. Products manufactured or imported before the effective date of the rule can be sold after the effective date, so existing product inventories will be unaffected. Anti-stockpiling provisions of the rule will limit the production or importation of noncomplying lighters between the rule's promulgation date and effective date.

Molds used in the production of component parts are replaced periodically by manufacturers. While some of these may be replaced more quickly than normal for some firms, the effective date of 12 months after publication of a final rule will allow most firms ample time for such changes.

No changes in the amounts of butane or other fuels used in lighters will result from the issuance of the rule. Production of prototype test lighters may require occasional emptying of butane gas from production line samples, but the extent of this practice will be very slight (typically under 100 individual lighters per production facility; there are probably fewer than 5 such facilities in the U.S.).

The rule contains no labeling or packaging requirements that will change the way lighters are packaged for sale. There will be no significant impact on either domestic consumption of or domestic and foreign suppliers of raw materials used in the manufacture of the various plastic and metal lighter components. No significant change in the consumption or disposal of lighters by consumers is anticipated as a result.

It is concluded from the available information that the rule for lighters will not significantly affect raw material use, air or water quality, manufacturing processes, or disposal practices in a way that will cause any significant impact on the environment.

VIII. Paperwork Reduction Act

As explained above, the standard and certification provisions will require manufacturers and importers of disposable and novelty lighters to perform testing, maintain records, and report data to the Commission relating to the lighters that they produce or import. For this reason, the rule published below contains "collection of information requirements," as that term is used in the Paperwork Reduction Act, 44 U.S.C. 3501-3520. Therefore, the proposed rule was submitted to the Office of Management and Budget ("OMB") in accordance with 44 U.S.C. 3504(h) and implementing regulations codified at 5 CFR 1320.13. The proposal also indicated that any person who desired to comment to OMB on the collection of information requirements in the proposal should address those comments to OMB's Office of Information and Regulatory Policy. No comments on the proposal were submitted to OMB, and OMB approved the collection of information requirements (OMB Control No. 3041-0116).

IX. Extension of Time To Issue Final Rule

Section 9(d)(1) of the CPSA, 15 U.S.C. 2058(d)(1), provides that a final consumer product safety rule must be published within 60 days of publication of the proposed rule unless the Commission extends the 60-day period for good cause and publishes its reasons for the extension in the Federal Register.

Executive Order 12662, which implements the United States-Canada Free-Trade Implementation Act, provides that publication of standards-related measures shall ordinarily be at least 75 days before the comment due date. Accordingly, the Commission provided a comment period of 75 days for the proposal. Additional time was

required to analyze the comments and to prepare a briefing package for the Commission's consideration that described the comments received, the staff's recommended responses to the issues in the comments, new information concerning the relevant issues and findings, and the staff's recommendation that a final rule be issued. In addition, time was required for the Commission to consider and vote on whether to issue a final rule and approve a Federal Register notice responding to the comments on the proposal and containing the required findings to issue the rule.

In anticipation of these activities, the Commission in the proposal found that these activities constituted good cause for extending the 60-day period after publication of a rule that is provided by the CPSA as the time during which a final rule shall be published. Accordingly, in the proposal, the Commission extended the time during which it may publish the final rule to April 30, 1993.

Although the comment period on the proposal closed on November 2, 1992, comments were received as late as February 22, 1993. In addition, the Commission allowed an opportunity for comment on a report of results of child-resistant lighter testing; that comment period closed on March 18, 1993. These factors prevented the completion of the briefing package in time for the Commission to publish a final rule by April 30, 1993. The Commission finds that this constitutes good cause for extending by another 3 months the period during which a final rule will be published. Accordingly, the Commission extends the time during which it will publish the final rule to July 31, 1993.

Pub. L. No. 101-608 amended section 9(c) of the CPSA to require that a rule be issued within 12 months of the publication of an ANPR, unless the Commission determined that a rule is not reasonably necessary to eliminate or reduce an unreasonable risk of injury or that a rule is not in the public interest. Consumer Product Safety Improvement Act of 1990, Pub. L. No. 101-608, § 109, 1990 U.S. CODE CONG. & ADMIN. NEWS (104 Stat.) 3113. The Commission also may extend the 12-month period for good cause. *Id.*

Since the ANPR in this proceeding was issued more than 1 year before the enactment of Pub. L. No. 101-608, the Commission concludes that the requirement that a rule be published within 12 months of its ANPR is inapplicable to this proceeding and that it is unnecessary to formally extend the period for issuing the proposal. In any

event, the following facts constitute good cause for issuing this rule more than 12 months after publication of the ANPR:

1. that the statutory amendment was enacted more than 1 year after the publication of the ANPR, and
2. that additional testing was required to resolve inconsistent results obtained in the verification testing and to determine the performance of various designs in tests of child-resistant lighters.

List of Subjects in 16 CFR Part 1210

Cigarette lighters, Consumer protection, Fire prevention, Hazardous materials, Infants and children, Labeling, Packaging and containers, Reporting and recordkeeping requirements.

For the reasons set out in the preamble, Title 16, Chapter II, Subchapter B, of the Code of Federal Regulations is amended as set forth below.

1. A new part 1210 is added to read as follows:

PART 1210—SAFETY STANDARD FOR CIGARETTE LIGHTERS

Subpart A—Requirements for Child Resistance

Sec.

- 1210.1 Scope and application.
- 1210.2 Definitions.
- 1210.3 Requirements for cigarette lighters.
- 1210.4 Test protocol.
- 1210.5 Findings.

Subpart B—Certification Requirements

Sec.

- 1210.11 General.
- 1210.12 Certificate of compliance.
- 1210.13 Certification tests.
- 1210.14 Qualification testing.
- 1210.15 Specifications.
- 1210.16 Production testing.
- 1210.17 Recordkeeping and reporting.
- 1210.18 Refusal of importation.

Subpart C—Stockpiling

Sec.

- 1210.20 Stockpiling.

Subpart A—Requirements for Child Resistance

Authority: 15 U.S.C. 2056, 2058, 2079(d).

§ 1210.1 Scope, application, and effective date.

This part 1210, a consumer product safety standard, prescribes requirements for disposable and novelty lighters. These requirements are intended to make the lighters subject to the standard's provisions resistant to successful operation by children

younger than 5 years of age. This standard applies to all disposable and novelty lighters, as defined in § 1210.2, that are manufactured or imported after July 12, 1994.

§ 1210.2 Definitions.

As used in this part 1210:

- (a) *Cigarette lighter*. See *lighter*.
- (b) *Disposable lighter*—means a lighter that either is:
- (1) not refillable with fuel or
 - (2)(i) its fuel is butane, isobutane, propane, or other liquified hydrocarbon, or a mixture containing any of these, whose vapor pressure at 75°F (24°C) exceeds a gage pressure of 15 psi (103 kPa), and
 - (ii) it has a Customs Valuation or ex-factory price under \$2.00, as adjusted every 5 years, to the nearest \$0.25, in accordance with the percentage changes in the monthly Wholesale Price Index from June 1993.

(c) *Lighter*, also referred to as *cigarette lighter*, means a flame-producing product commonly used by consumers to ignite cigarettes, cigars, and pipes, although they may be used to ignite other materials. This term does not include matches or any other lighting device intended primarily for igniting materials other than smoking materials, such as fuel for fireplaces or for charcoal or gas-fired grills. When used in this part 1210, the term *lighter* includes only the disposable and novelty lighters to which this regulation applies.

(d) *Novelty lighter* means a lighter that has entertaining audio or visual effects, or that depicts (logos, decals, art work, etc.) or resembles in physical form or function articles commonly recognized as appealing to or intended for use by children under 5 years of age. This includes, but is not limited to, lighters that depict or resemble cartoon characters, toys, guns, watches, musical instruments, vehicles, toy animals, food or beverages, or that play musical notes or have flashing lights or other entertaining features. A novelty lighter may operate on any fuel, including butane or liquid fuel.

(e) *Successful operation* means one signal of any duration from a surrogate lighter within either of the two 5-minute test periods specified in § 1210.4(f).

(f) *Surrogate lighter* means a device that: approximates the appearance, size, shape, and weight of, and is identical in all other factors that affect child resistance (including operation and the force(s) required for operation), within reasonable manufacturing tolerances, to, a lighter intended for use by consumers; has no fuel; does not produce a flame; and produces an audible or visual signal that will be clearly discernible when the

surrogate lighter is activated in each manner that would normally produce a flame in a production lighter. (This definition does not require a lighter to be modified with electronics or the like to produce a signal. Manufacturers may use a lighter without fuel as a surrogate lighter if a distinct signal such as a "click" can be heard clearly when the mechanism is operated in each manner that would produce a flame in a production lighter and if a flame cannot be produced in a production lighter without the signal. *But see* § 1210.4(f)(1).)

(g) *Model* means one or more cigarette lighters from the same manufacturer or importer that do not differ in design or other characteristics in any manner that may affect child-resistance. Lighter characteristics that may affect child-resistance include, but are not limited to, size, shape, case material, and ignition mechanism (including child-resistant features).

§ 1210.3 Requirements for cigarette lighters.

(a) A lighter subject to this part 1210 shall be resistant to successful operation by at least 85 percent of the child-test panel when tested in the manner prescribed by § 1210.4.

(b) The mechanism or system of a lighter subject to this part 1210 that makes the product resist successful operation by children must:

- (1) reset itself automatically after each operation of the ignition mechanism of the lighter,
- (2) not impair safe operation of the lighter when used in a normal and convenient manner,
- (3) be effective for the reasonably expected life of the lighter, and
- (4) not be easily overridden or deactivated.

§ 1210.4 Test protocol.

(a) *Child test panel*. (1) The test to determine if a lighter is resistant to successful operation by children uses a panel of children to test a surrogate lighter representing the production lighter intended for use. Written informed consent shall be obtained from a parent or legal guardian of a child before the child participates in the test.

(2) The test shall be conducted using at least one, but no more than two, 100-child test panels in accordance with the provisions of § 1210.4(f).

(3) The children for the test panel shall live within the United States.

(4) The age and sex distribution of each 100-child panel shall be:

- (i) 30 +or- 2 children (20 +or- 1 males; 10 +or- 1 females) 42 through 44 months old;

(ii) 40 +or- 2 children (26 +or- 1 males; 14 +or- 1 females) 45 through 48 months old;

(iii) 30 +or- 2 children (20 +or- 1 males; 10 +or- 1 females) 49 through 51 months old.

Note: To calculate a child's age in months:

1. Subtract the child's birth date from the test date.

	Month	Day	Year
Test Date	8	3	94
Birth Date	6	23	90
Difference	2	-20	4

2. Multiply the difference in years by 12 months.

4 years X 12 months = 48 months.

3. Add the difference in months.

48 months + 2 months = 50 months.

4. If the difference in days is greater than 15 (e.g., 16, 17), add 1 month.

If the difference in days is less than -15 (e.g., -16, -17) subtract 1 month.

50 months - 1 month = 49 months.

If the difference in days is between -15 and 15 (e.g., -15, -14, ..., 14, 15), do not add or subtract 1 month.

(5) No child with a permanent or temporary illness, injury, or handicap that would interfere with the child's ability to operate the surrogate lighter shall be selected for participation.

(6) Two children at a time shall participate in testing of surrogate lighters. Extra children whose results will not be counted in the test may be used if necessary to provide the required partner for test subjects, if the extra children are within the required age range and a parent or guardian of each such child has signed a consent form.

(7) No child shall participate in more than one test panel or test more than one surrogate lighter. No child shall participate in both child-resistant package testing and surrogate lighter testing on the same day.

(b) *Test sites, environment, and adult testers.* (1) Surrogate lighters shall be tested within the United States at 5 or more test sites throughout the geographical area for each 100-child panel if the sites are the customary nursery schools or day care centers of the participating children. No more than 20 children shall be tested at each site. In the alternative, surrogate lighters may be tested within the United States at one or more central locations, provided the participating children are drawn from a variety of locations within the geographical area.

(2) Testing of surrogate lighters shall be conducted in a room that is familiar to the children on the test panel (for example, a room the children frequent at their customary nursery school or day

care center). If the testing is conducted in a room that initially is unfamiliar to the children (for example, a room at a central location), the tester shall allow at least 5 minutes for the children to become accustomed to the new environment before starting the test. The area in which the testing is conducted shall be well-lighted and isolated from distractions. The children shall be allowed freedom of movement to work with their surrogate lighters, as long as the tester can watch both children at the same time. Two children at a time shall participate in testing of surrogate lighters. The children shall be seated side by side in chairs approximately 6 inches apart, across a table from the tester. The table shall be normal table height for the children, so that they can sit up at the table with their legs underneath and so that their arms will be at a comfortable height when on top of the table. The children's chairs shall be "child-size."

(3) Each tester shall be at least 18 years old. Five or 6 adult testers shall be used for each 100-child test panel. Each tester shall test an approximately equal number of children from a 100-child test panel (20 +or- 2 children each for 5 testers and 17 +or- 2 children each for 6 testers).

Note: When a test is initiated with five testers and one tester drops out, a sixth tester may be added to complete the testing. When a test is initiated with six testers and one tester drops out, the test shall be completed using the five remaining testers. When a tester drops out, the requirement for each tester to test an approximately equal number of children does not apply to that tester. When testing is initiated with five testers, no tester shall test more than 19 children until it is certain that the test can be completed with five testers.

(c) *Surrogate lighters.* (1) Six surrogate lighters shall be used for each 100-child panel. The six lighters shall represent the range of forces required for operation of lighters intended for use. All surrogate lighters shall be the same color. The surrogate lighters shall be labeled with sequential numbers beginning with the number one. The same six surrogate lighters shall be used for the entire 100-child panel. The surrogate lighters may be used in more than one 100-child panel test. The surrogate lighters shall not be damaged or jarred during storage or transportation. The surrogate lighters shall not be exposed to extreme heat or cold. The surrogate lighters shall be tested at room temperature. No surrogate lighter shall be left unattended.

(2) Each surrogate lighter shall be tested by an approximately equal number of children in a 100-child test panel (17 +or- 2 children).

Note: If a surrogate lighter is permanently damaged, testing shall continue with the remaining lighters. When a lighter is dropped out, the requirement that each lighter be tested by an approximately equal number of children does not apply to that lighter.

(3) Before each 100-child panel is tested, each surrogate lighter shall be examined to verify that it approximates the appearance, size, shape, and weight of a production lighter intended for use.

(4) Before and after each 100-child panel is tested, force measurements shall be taken on all operating components that could affect child resistance to verify that they are within reasonable operating tolerances for a production lighter intended for use.

(5) Before and after testing surrogate lighters with each child, each surrogate lighter shall be operated outside the presence of any child participating in the test to verify that the lighters produce a signal. If the surrogate lighter will not produce a signal before the test, it shall be repaired before it is used in testing. If the surrogate lighter does not produce a signal when it is operated after the test, the results for the preceding test with that lighter shall be eliminated. The lighter shall be repaired and tested with another eligible child (as one of a pair of children) to complete the test panel.

(d) *Encouragement.* (1) Prior to the test, the tester shall talk to the children in a normal and friendly tone to make them feel at ease and to gain their confidence.

(2) The tester shall tell the children that he or she needs their help for a special job. The children shall not be promised a reward of any kind for participating, and shall not be told that the test is a game or contest or that it is fun.

(3) The tester shall not discourage a child from attempting to operate the surrogate lighter at any time unless a child is in danger of hurting himself or another child. The tester shall not discuss the dangers of lighters or matches with the children to be tested prior to the end of the 10-minute test.

(4) Whenever a child has stopped attempting to operate the surrogate lighter for a period of approximately one minute, the tester shall encourage the child to try by saying "keep trying for just a little longer."

(5) Whenever a child says that his or her parent, grandparent, guardian, etc., said never to touch lighters, say "that's right — never touch a real lighter — but

your [parent, etc.] said it was OK for you to try to make a noise with this special lighter because it can't hurt you."

(6) The children in a pair being tested may encourage each other to operate the surrogate lighter and may tell or show each other how to operate it. (This interaction is not considered to be disruption as described in paragraph (e)(2) below.) However, neither child shall be allowed to operate the other child's lighter. If one child takes the other child's surrogate lighter, that surrogate lighter shall be immediately returned to the proper child. If this occurs, the tester shall say "No. He(she) has to try to do it himself(herself)."

(e) *Children who refuse to participate.* (1) If a child becomes upset or afraid, and cannot be reassured before the test starts, select another eligible child for participation in that pair.

(2) If a child disrupts the participation of another child for more than one minute during the test, the test shall be stopped and both children eliminated from the results. An explanation shall be recorded on the data collection record. These two children should be replaced with other eligible children to complete the test panel.

(3) If a child is not disruptive but refuses to attempt to operate the surrogate lighter throughout the entire test period, that child shall be eliminated from the test results and an explanation shall be recorded on the data collection record. The child shall be replaced with another eligible child (as one of a pair of children) to complete the test panel.

(f) *Test procedure.* (1) To begin the test, the tester shall say "I have a special lighter that will not make a flame. It makes a noise like this." Except where doing so would block the child's view of a visual signal, the adult tester shall place a 8½ by 11 inch sheet of cardboard or other rigid opaque material upright on the table in front of the surrogate lighter, so that the surrogate lighter cannot be seen by the child, and shall operate the surrogate lighter once to produce its signal. The tester shall say "Your parents [or other guardian, if applicable] said it is OK for you to try to make that noise with your lighter." The tester shall place a surrogate lighter in each child's hand and say "now you try to make a noise with your lighter. Keep trying until I tell you to stop."

(2) The adult tester shall observe the children for 5 minutes to determine if either or both of the children can successfully operate the surrogate lighter by producing one signal of any duration. If a child achieves a spark without defeating the child-resistant feature, say "that's a spark — it won't

hurt you — try to make the noise with your lighter." If any child successfully operates the surrogate lighter during this period, the surrogate lighter shall be taken from that child and the child shall not be asked to try to operate the lighter again. The tester shall ask the successful child to remain until the other child is finished.

(3) If either or both of the children are unable to successfully operate the surrogate lighter during the 5-minute period specified in § 1210.4(f)(2), the adult tester shall demonstrate the operation of the surrogate lighter. To conduct the demonstration, secure the children's full attention by saying "Okay, give me your lighters now." Take the lighters and place them on the table in front of you out of the children's reach. Then say, "I'll show you how to make the noise with your lighters. First I'll show you with (child's name)'s lighter and then I'll show you with (child's name)'s lighter." Pick up the first child's lighter. Hold the lighter approximately two feet in front of the children at their eye level. Hold the lighter in a vertical position in one hand with the child-resistant feature exposed (not covered by fingers, thumb, etc.) Orient the child-resistant mechanism on the lighter toward the children. [This may require a change in your orientation to the children such as sitting sideways in the chair to allow a normal hand position for holding the lighter while assuring that both children have a clear view of the mechanism. You may also need to reposition your chair so your hand is centered between the children] Say "now watch the lighter." Look at each child to verify that they are looking at the lighter. Operate the lighter one time in a normal manner according to the manufacturer's instructions. Do not exaggerate operating movements. Do not verbally describe the lighter's operation. Place the first child's lighter back on the table in front of you and pick up the second child's lighter. Say, "Okay, now watch this lighter." Repeat the demonstration as described above using the second child's lighter. Note: Testers shall be trained to conduct the demonstration in a uniform manner, including the words spoken to the children, the way the lighter is held and operated, and how the tester's hand and body is oriented to the children. All testers must be able to operate the surrogate lighters using only appropriate operating movements in accordance with the manufacturer's instructions. If any of these requirements are not met during the demonstration for any pair of children, the results for that pair of children shall

be eliminated from the test. Another pair of eligible children shall be used to complete the test panel.

(4) Each child who fails to successfully operate the surrogate lighter in the first 5 minutes is then given another 5 minutes in which to attempt the successful operation of the surrogate lighter. After the demonstrations give their original lighters back to the children by placing a lighter in each child's hand. Say "Okay, now you try to make the noise with your lighters - keep trying until I tell you to stop." If any child successfully operates the surrogate lighter during this period, the surrogate lighter shall be taken from that child and the child shall not be asked to try to operate the lighter again. The tester shall ask the successful child to remain until the other child is finished.

(5) At the end of the second 5-minute test period, take the surrogate lighter from any child who has not successfully operated it.

(6) After the test is over, ask the children to stand next to you. Look at the children's faces and say: "These are special lighters that don't make fire. Real lighters can burn you. Will you both promise me that you'll never try to work a real lighter?" Wait for an affirmative response from each child; then thank the children for helping.

(7) Escort the children out of the room used for testing.

(8) After a child has participated in the testing of a surrogate lighter, and on the same day, provide written notice of that fact to the child's parent or guardian. This notification may be in the form of a letter provided to the school to be given to the parents or guardian of each child. The notification shall state that the child participated, shall ask the parent or guardian to warn the child not to play with lighters, and shall remind the parent or guardian to keep all lighters and matches, whether child resistant or not, out of the reach of children. For children who operated the surrogate lighter, the notification shall state that the child was able to operate the child-resistant lighter. For children who do not defeat the child-resistant feature, the notification shall state that, although the child did not defeat the child-resistant feature, the child may be able to do so in the future.

(g) *Data collection and recording.* Except for recording the times required for the children to activate the signal, recording of data should be avoided while the children are trying to operate the lighters, so that the tester's full attention is on the children during the test period. If actual testing is

videotaped, the camera shall be stationary and shall be operated remotely in order to avoid distracting the children. Any photographs shall be taken *after* actual testing and shall simulate actual test procedure(s) (for example, the demonstration). The following data shall be collected and recorded for each child in the 100-child test panel:

- (1) Sex (male or female).
- (2) Date of birth (month, day, year).
- (3) Age (in months, to the nearest month, as specified in § 1210.4(a)(4)).
- (4) The number of the lighter tested by that child.
- (5) Date of participation in the test (month, day, year).
- (6) Location where the test was given (city, state, country, and the name of the site or an unique number or letter code that identifies the test site).
- (7) The name of the tester who conducted the test.
- (8) The elapsed time (to the nearest second) at which the child achieved any operation of the surrogate signal in the first 5-minute test period.
- (9) The elapsed time (to the nearest second) at which the child achieved any

operation of the surrogate signal in the second 5-minute test period.

(10) For a single pair of children from each 100-child test panel, photograph(s) or video tape to show how the lighter was held in the tester's hand, and the orientation of the tester's body and hand to the children, during the demonstration.

(h) *Evaluation of test results and acceptance criterion.* To determine whether a surrogate lighter resists operation by at least 85 percent of the children, sequential panels of 100 children each, up to a maximum of 2 panels, shall be tested as prescribed below.

(1) If no more than 10 children in the first 100-child test panel successfully operated the surrogate lighter, the lighter represented by the surrogate lighter shall be considered to be resistant to successful operation by at least 85 percent of the child test panel, and no further testing is conducted. If 11 through 18 children in the first 100-child test panel successfully operate the surrogate lighter, the test results are inconclusive, and the surrogate lighter shall be tested with a second 100-child test panel in accordance with this

§ 1210.4. If 19 or more of the children in the first 100-child test panel successfully operated the surrogate lighter, the lighter represented by the surrogate shall be considered not resistant to successful operation by at least 85 percent of the child test panel, and no further testing is conducted.

(2) If additional testing of the surrogate lighter is required by § 1210.4(h)(1), conduct the test specified by this § 1210.4 using a second 100-child test panel and record the results. If a total of no more than 30 of the children in the combined first and second 100-child test panels successfully operated the surrogate lighter, the lighter represented by the surrogate lighter shall be considered resistant to successful operation by at least 85 percent of the child test panel, and no further testing is performed. If a total of 31 or more children in the combined first and second 100-child test panels successfully operate the surrogate lighter, the lighter represented by the surrogate lighter shall be considered not resistant to successful operation by 85 percent of the child test panel, and no further testing is conducted.

Table 1.—Evaluation of Test Results—§ 1210.4(e)

Test panel	Cumulative Number of Children	Successful Lighter Operations		
		Pass	Continue	Fail
1	100	0-10	11-18	19 or more
1	200	11-30	—	31 or more

§ 1210.5 Findings.

Section 9(f) of the Consumer Product Safety Act, 15 U.S.C. 2058(f), requires the Commission to make findings concerning the following topics and to include the findings in the rule.

(a) *The degree and nature of the risk of injury the rule is designed to eliminate or reduce.* The standard is designed to reduce the risk of death and injury from accidental fires started by children playing with lighters. From 1988 to 1990, an estimated 160 deaths per year resulted from such fires. About 150 of these deaths, plus nearly 1,100 injuries and nearly \$70 million in property damage, resulted from fires started by children under the age of 5. Fire-related injuries include thermal burns — many of high severity — as well as anoxia and other, less serious injuries. The annual cost of such fires to the public is estimated at about \$385 million (in 1990 dollars). Fires started by young children (under age 5) are

those which the standard would be most effective at reducing.

(b) *The approximate number of consumer products, or types or classes thereof, subject to the rule.* The standard covers certain flame-producing devices, commonly known as lighters, which are primarily intended for use in lighting cigarettes and other smoking materials. Lighters may be gas- or liquid-fueled, mechanical or electric, and of various physical configurations. Over 600 million lighters are sold annually to consumers in the U.S.; over 100 million are estimated to be in use at any given time. Over 95 percent of all lighters sold are pocket-sized disposable butane models; of the remaining 5 percent, most are pocket refillable butane models. A small proportion of refillables is comprised of pocket liquid-fuel models; still smaller proportions are represented by table lighters and by "novelty" lighters, that is, those having the physical appearance of other specific objects. Approximately 600

million pocket butane disposables (nonrefillable), 15-20 million pocket butane refillables, 5-10 million pocket liquid-fuel refillables, and 1-3 million novelty and other lighters were sold to consumers in 1991. The standard covers disposable lighters, including inexpensive butane refillables, and novelty lighters. Roughly 30 million households have at least one lighter; ownership of more than one lighter is typical, especially among smoking households.

(c) *The need of the public for the consumer products subject to the rule, and the probable effect of the rule on the utility, cost, or availability of such products to meet such need.* Consumers use lighters primarily to light smoking materials. Most other lighting needs that could be filled by matches may also be filled by lighters. Disposable butane lighters are, chiefly by virtue of their low price and convenience, the closest available substitutes for matches. Although matches are found in far more

households, lighters have steadily replaced matches since the 1960's as the primary light source among American consumers. The standard generally requires that lighters not be operable by most children under 52 months of age. This would likely be achieved by modifying products to incorporate additional-action switches, levers, or buttons, thereby increasing the difficulty of product activation. Depending on the method of compliance chosen by manufacturers, there could be some adverse effect on the utility of lighters. This may occur to the extent that operation of the products by adult users is made more difficult by the incorporation of child-resistant features. This may lead some consumers to switch to matches, at least temporarily, which could reduce the expected level of safety provided by the standard. In addition, some "novelty" lighters will probably be discontinued, due to the technical difficulty of incorporating child-resistant features or designs. Some loss of utility derived from those products by collectors or other users may result, though many novelty models will probably remain on the market. The cost of producing lighters subject to the standard is expected to increase due to manufacturers' and importers' expenditures in the areas of research and development, product redesign, tooling and assembly process changes, certification and testing, and other administrative activities. Total per-unit production costs for the various lighter types may increase by 10-40 percent, with an average of less than 20 percent. Cost increases will likely be passed on to consumers in the form of higher retail prices. Disposable lighters may increase in price by 10-40 cents per unit; prices of other lighters may increase by as much as \$1-3. The estimated average per-unit price increase for all lighters subject to the standard is about 20 cents. The total annual cost of the standard to consumers is estimated at about \$90 million. The estimated cost of the standard per life saved is well under \$1 million after considering the benefits of reduced injuries and property damage; this is well below the consensus of estimates of the statistical value of life. A wide range of lighter types and models will continue to be available to consumers. As noted above, some models of novelty lighters — all of which account for less than 1 percent of lighters sold — will likely be discontinued; this should not have a significant impact on the overall availability of lighters to consumers.

(d) *Any means of achieving the objective of the order while minimizing adverse effects on competition or disruption or dislocation of manufacturing and other commercial practices consistent with the public health and safety.* The Commission considered the potential effects on competition and business practices of various aspects of the standard, and, as noted below, incorporated some burden-reducing elements into the proposal. The Commission also encouraged and participated in the development of a draft voluntary standard addressing the risk of child-play fires. A draft voluntary safety standard was developed by members of an ASTM task group (now a subcommittee) to address much of the risk addressed by the proposed CPSC rule. This draft voluntary standard contained performance requirements similar, but not identical, to those in the CPSC proposal. Development work on the voluntary standard ceased in 1991; industry representatives requested that the Commission issue the draft ASTM provisions in a mandatory rule. One possible alternative to this mandatory standard would be for the Commission to rely on voluntary conformance to this draft standard to provide safety to consumers. The expected level of conformance to a voluntary standard is uncertain, however; although some of the largest firms may market some child-resistant lighters that conform to these requirements, most firms (possibly including some of the largest) probably would not. Even under generous assumptions about the level of voluntary conformance, net benefits to consumers would be substantially lower under this alternative than under the standard. Thus, the Commission finds that reliance on voluntary conformance to the draft ASTM standard would not adequately reduce the unreasonable risk associated with lighters.

(e) *The rule (including its effective date) is reasonably necessary to eliminate or reduce an unreasonable risk.* The Commission's hazard data and regulatory analysis demonstrate that lighters covered by the standard pose an unreasonable risk of death and injury to consumers. The Commission considered a number of alternatives to address this risk, and believes that the standard strikes the most reasonable balance between risk reduction benefits and potential costs. Further, the amount of time before the standard becomes effective will provide manufacturers and importers of most products adequate time to design, produce, and market safer lighters. Thus, the Commission finds that the standard and

its effective date are reasonably necessary to reduce the risk of fire-related death and injury associated with young children playing with lighters.

(f) *The benefits expected from the rule bear a reasonable relationship to its costs.* The standard will substantially reduce the number of fire-related deaths, injuries, and property damage associated with young children playing with lighters. The cost of these accidents, which is estimated to be about \$385 million annually, will also be greatly reduced. Estimated annual benefits of the standard are \$205-\$270 million; estimated annual costs to the public are about \$90 million. Expected annual net benefits would therefore be \$115-\$180 million. Thus, the Commission finds that a reasonable relationship exists between potential benefits and potential costs of the standard.

(g) *The rule imposes the least burdensome requirement which prevents or adequately reduces the risk of injury for which the rule is being promulgated.* (1) In the final rule, the Commission incorporated a number of changes from the proposed rule in order to minimize the potential burden of the rule on industry and consumers. The Commission also considered and rejected several alternatives during the development of the standard to reduce the potential burden on industry (especially small importers) and on consumers. These alternatives involve different performance and test requirements and different definitions determining the scope of coverage among products. Other alternatives generally would be more burdensome to industry and would have higher costs to consumers. Some less burdensome alternatives would have lower risk-reduction benefits to consumers; none has been identified that would have higher expected net benefits than the standard.

(2) The scope of this mandatory standard is limited to disposable lighters and novelty lighters; it does not apply to "luxury" lighters (including most higher priced refillable butane and liquid-fuel models). This is similar but not identical to the scope of a draft voluntary industry standard developed in response to the Commission's advance notice of proposed rulemaking of March 3, 1988 (53 FR 6833). This exclusion significantly reduces the potential cost of the standard without significantly affecting potential benefits.

(3) The Commission narrowed the scope of the final rule with respect to novelty lighters, and considered limiting the scope further to exclude all nondisposable novelty lighters. Though

further limiting the scope would ease the potential burden of the standard on manufacturers and importers slightly, inherently less safe non-child-resistant lighters that are considered to be especially appealing to children would remain on the market, thereby reducing the potential safety benefits to the public. The Commission finds that it would not be in the public interest to exclude novelty lighters.

(4) The Commission considered the potential effect of alternate performance requirements during the development of the standard. A less stringent acceptance criterion of 80 percent (rather than the standard's 85 percent) might slightly reduce costs to industry and consumers. The safety benefits of this alternative, however, would likely be reduced disproportionately to the potential reduction in costs. A higher (90 percent) acceptance criterion was also considered. This higher performance level is not commercially or technically feasible for many firms, however; the Commission believes that this more stringent alternative would have substantial adverse effects on manufacturing and competition, and would increase costs disproportionate to benefits. The Commission believes that the requirement that complying lighters not be operable by at least 85 percent of children in prescribed tests strikes a reasonable balance between improved safety for a substantial majority of young children and other potential fire victims and the potential for adverse competitive effects and manufacturing disruption.

(5) The Commission believes that the standard should become effective as soon as reasonably possible. The standard will become effective 12 months from its date of publication in the Federal Register. The Commission also considered an effective date of 6 months after the date of issuance of the final rule. While most lighters sold in the U.S. could probably be made child resistant within 6 months, some disruptive effects on the supply of some imported lighters would result; this could have a temporary adverse impact on the competitive positions of some U.S. importers. The 12-month period in the standard would tend to minimize this potential effect, and would allow more time for firms to design, produce, and import complying lighters. The Commission estimates that there would be no significant adverse impact on the overall supply of lighters for the U.S. market.

(h) *The promulgation of the rule is in the public interest.* As required by the CPSA and the Regulatory Flexibility Act, the Commission considered the

potential benefits and costs of the standard and various alternatives. While certain alternatives to the final rule are estimated to have net benefits to consumers, the adopted rule maximizes these net benefits. Thus, the Commission finds that the standard, if promulgated on a final basis, would be in the public interest.

Subpart B—Certification Requirements

Authority: 15 U.S.C. 2063, 2065(b), 2066(g), 2076(e), 2079(d).

§ 1210.11 General.

Section 14(a) of the Consumer Product Safety Act (CPSA), 15 U.S.C. 1263(a), requires every manufacturer, private labeler, or importer of a product that is subject to a consumer product safety standard and that is distributed in commerce to issue a certificate that such product conforms to the applicable standard and to base that certificate upon a test of each item or upon a reasonable testing program. The purpose of this subpart B of part 1210 is to establish requirements that manufacturers, importers, and private labelers must follow to certify that their products comply with the Safety Standard for Cigarette Lighters. This subpart B describes the minimum features of a reasonable testing program and includes requirements for labeling, recordkeeping, and reporting pursuant to sections 14, 16(b), 17(g), and 27(e) of the CPSA, 15 U.S.C. 2063, 2065(b), 2066(g), and 2076(e).

§ 1210.12 Certificate of compliance.

(a) General requirements.

(1) *Manufacturers (including importers).* Manufacturers of any lighter subject to the standard must issue the certificate of compliance required by section 14(a) of the CPSA and this subpart B, based on a reasonable testing program or a test of each product, as required by §§ 1210.13-1210.14 and 1210.16. Manufacturers must also label each lighter subject to the standard as required by paragraph (c) of this section and keep the records and make the reports required by §§ 1210.15 and 1210.17. For purposes of this requirement, an importer of lighters shall be considered the "manufacturer."

(2) *Private labelers.* Because private labelers necessarily obtain their products from a manufacturer or importer that is already required to issue the certificate, private labelers are not required to issue a certificate. However, private labelers must ensure that the lighters are labeled in accordance with paragraph (c) of this section and that any certificate of

compliance that is supplied with each shipping unit of lighters in accordance with paragraph (b) of this section is supplied to any distributor or retailer who receives the product from the private labeler.

(3) *Testing on behalf of importers.* If the required testing has been performed by or for a foreign manufacturer of a product, an importer may rely on such tests to support the certificate of compliance, provided that the importer is a resident of the United States or has a resident agent in the United States, the records are in English, and the records and the surrogate lighters tested are kept in the United States and can be provided to the Commission within 48 hours (§ 1210.17(a)) or, in the case of production records, can be provided to the Commission within 7 calendar days in accordance with § 1210.17(a)(3). The importer is responsible for ensuring that the foreign manufacturer's records show that all testing used to support the certificate of compliance has been performed properly (§§ 1210.14-1210.16), the records provide a reasonable assurance that all lighters imported comply with the standard (§ 1210.13(b)(1)), the records exist in English (§ 1210.17(a)), (4) the importer knows where the required records and lighters are located and that records required to be located in the United States are located there, arrangements have been made so that any records required to be kept in the United States will be provided to the Commission within 48 hours of a request and any records not kept in the United States will be provided to the Commission within 7 calendar days (§ 1210.17(a)), and the information required by § 1210.17(b) to be provided to the Commission's Division of Regulatory Management has been provided.

(b) *Certificate of compliance.* A certificate of compliance must accompany each shipping unit of the product (for example, a case), or otherwise be furnished to any distributor or retailer to whom the product is sold or delivered by the manufacturer, private labeler, or importer. The certificate shall state:

(1) That the product "complies with the Consumer Product Safety Standard for Cigarette Lighters (16 CFR 1210),"

(2) The name and address of the manufacturer or importer issuing the certificate or of the private labeler, and

(3) The date(s) of manufacture and, if different from the address in paragraph (c)(2) of this section, the address of the place of manufacture.

(c) *Labeling.* The manufacturer or importer must label each lighter with

the following information, which may be in code.

(1) An identification of the period of time, not to exceed 31 days, during which the lighter was manufactured.

(2) An identification of the manufacturer of the lighter, unless the lighter bears a private label. If the lighter bears a private label, it shall bear a code mark or other label which will permit the seller of the lighter to identify the manufacturer to the purchaser upon request.

§ 1210.13 Certification tests.

(a) *General.* As explained in § 1210.11 of this subpart, certificates of compliance required by section 14(a) of the CPSA must be based on a reasonable testing program.

(b) *Reasonable testing programs.*

(1) *Requirements.* (i) A reasonable testing program for lighters is one that demonstrates with a high degree of assurance that all lighters manufactured for sale or distributed in commerce will meet the requirements of the standard, including the requirements of § 1210.3. Manufacturers and importers shall determine the types and frequency of testing for their own reasonable testing programs. A reasonable testing program should be sufficiently stringent that it will detect any variations in production or performance during the production interval that would cause any lighters to fail to meet the requirements of the standard.

(ii) All reasonable testing programs shall include qualification tests, which must be performed on surrogates of each model of lighter produced, or to be produced, to demonstrate that the product is capable of passing the tests prescribed by the standard (see § 1210.14), and production tests, which must be performed during appropriate production intervals as long as the product is being manufactured (see § 1210.16).

(iii) Corrective action and/or additional testing must be performed whenever certification tests of samples of the product give results that do not provide a high degree of assurance that all lighters manufactured during the applicable production interval will pass the tests of the standard.

(2) *Testing by third parties.* At the option of the manufacturer or importer, some or all of the testing of each lighter or lighter surrogate may be performed by a commercial testing laboratory or other third party. However, the manufacturer or importer must ensure that all certification testing has been properly performed with passing results and that all records of such tests are

maintained in accordance with § 1210.17 of this subpart.

§ 1210.14 Qualification testing.

(a) *Testing.* Before any manufacturer or importer of lighters distributes lighters in commerce in the United States, surrogate lighters of each model shall be tested in accordance with § 1210.4, above, to ensure that all such lighters comply with the standard. However, if a manufacturer has tested one model of lighter, and then wishes to distribute another model of lighter that differs from the first model only by differences that would not have an adverse effect on child resistance, the second model need not be tested in accordance with § 1210.4.

(b) *Product modifications.* If any changes are made to a product after initial qualification testing that could adversely affect the ability of the product to meet the requirements of the standard, additional qualification tests must be made on surrogates for the changed product before the changed lighters are distributed in commerce.

(c) *Requalification.* If a manufacturer or importer chooses to requalify a lighter design after it has been in production, this may be done by following the testing procedures at § 1210.4.

§ 1210.15 Specifications.

(a) *Requirement.* Before any lighters that are subject to the standard are distributed in commerce, the manufacturer or importer shall ensure that the surrogate lighters used for qualification testing under § 1210.14 are described in a written product specification. (Section 1210.4(c) requires that six surrogate lighters be used for testing each 100-child panel.)

(b) *Contents of specification.* The product specification shall include the following information:

(1) A complete description of the lighter, including size, shape, weight, fuel, fuel capacity, ignition mechanism, and child-resistant features.

(2) A detailed description of all dimensions, force requirements, or other features that could affect the child-resistance of the lighter, including the manufacturer's tolerances for each such dimension or force requirement.

(3) Any further information, including, but not limited to, model names or numbers, necessary to adequately describe the lighters and any child-resistant features.

§ 1210.16 Production testing.

(a) *General.* Manufacturers and importers shall test samples of lighters subject to the standard as they are

manufactured, to demonstrate that the lighters meet the specifications, required under § 1210.15, of the surrogate that has been shown by qualification testing to meet the requirements of the standard.

(b) *Types and frequency of testing.* Manufacturers, private labelers, and importers shall determine the types of tests for production testing. Each production test shall be conducted at a production interval short enough to provide a high degree of assurance that, if the samples selected for testing pass the production tests, all other lighters produced during the interval will meet the standard.

(c) *Test failure.*

(1) *Sale of lighters.* If any test yields results which indicate that any lighters manufactured during the production interval may not meet the standard, production and distribution in commerce of lighters that may not comply with the standard must cease until it is determined that the lighters meet the standard or until corrective action is taken. (It may be necessary to modify the lighters or perform additional tests to ensure that only complying lighters are distributed in commerce. Lighters from other production intervals having test results showing that lighters from that interval comply with the standard could be produced and distributed unless there was some reason to believe that they might not comply with the standard.)

(2) *Corrective actions.* When any production test fails to provide a high degree of assurance that all lighters comply with the standard, corrective action must be taken. Corrective action may include changes in the manufacturing process, the assembly process, the equipment used to manufacture the product, or the product's materials or design. The corrective action must provide a high degree of assurance that all lighters produced after the corrective action will comply with the standard. If the corrective action changes the product from the surrogate used for qualification testing in a manner that could adversely affect its child resistance, the lighter must undergo new qualification tests in accordance with § 1210.14, above.

§ 1210.17 Recordkeeping and reporting.

(a) *Records.* Every manufacturer and importer of lighters subject to the standard shall maintain the following records in English on paper, microfiche, or similar media and make such records available to any designated officer or employee of the Commission in accordance with section 16(b) of the Consumer Product Safety Act, 15 U.S.C.

2065(b). Such records must also be kept in the United States and provided to the Commission within 48 hours of receipt of a request from any employee of the Commission, except as provided in paragraph (b)(3) of this section. Legible copies of original records may be used to comply with these requirements.

(1) Records of qualification testing, including a description of the tests, photograph(s) or a video tape for a single pair of children from each 100-child test panel to show how the lighter was held in the tester's hand, and the orientation of the tester's body and hand to the children, during the demonstration, the dates of the tests, the data required by § 1210.4(d), the actual surrogate lighters tested, and the results of the tests, including video tape records, if any. These records shall be kept until 3 years after the production of the particular model to which such tests relate has ceased. If requalification tests are undertaken in accordance with § 1210.14(c), the original qualification test results may be discarded 3 years after the requalification testing, and the requalification test results and surrogates, and the other information required in this subsection for qualifications tests, shall be kept in lieu thereof.

(2) Records of procedures used for production testing required by this subpart B, including a description of the types of tests conducted (in sufficient detail that they may be replicated), the production interval selected, the sampling scheme, and the pass/reject criterion. These records shall be kept until 3 years after production of the lighter has ceased.

(3) Records of production testing, including the test results, the date and location of testing, and records of corrective actions taken, which in turn includes the specific actions taken to improve the design or manufacture or to correct any noncomplying lighter, the date the actions were taken, the test result or failure that triggered the actions, and the additional actions taken to ensure that the corrective action had the intended effect. These records shall be kept for 3 years following the date of testing. Records of production testing results may be kept on paper, microfiche, computer tape, or other retrievable media. Where records are kept on computer tape or other retrievable media, however, the records shall be made available to the Commission on paper copies upon request. A manufacturer or importer of a lighter that is not manufactured in the United States may maintain the production records required by paragraph (a)(3) of this section outside

the United States, but shall make such records available to the Commission in the United States within 1 week of a request from a Commission employee for access to those records under section 16(b) of the CPSA, 15 U.S.C. 2065(b).

(4) Records of specifications required under § 1210.15 shall be kept until 3 years after production of each lighter model has ceased.

(b) *Reporting.* At least 30 days before it first imports or distributes in commerce any model of lighter subject to the standard, every manufacturer and importer must provide a written report to the Division of Regulatory Management, Consumer Product Safety Commission, Washington, D.C. 20207. Such report shall include:

(1) The name, address, and principal place of business of the manufacturer or importer,

(2) A detailed description of the lighter model and the child-resistant feature(s) used in that model,

(3) A description of the qualification testing, including a description of the surrogate lighters tested, the specification of the surrogate lighter required by § 1210.15, a summary of the results of all such tests, the dates the tests were performed, the location(s) of such tests, and the identity of the organization that conducted the tests,

(4) An identification of the place or places that the lighters were or will be manufactured,

(5) The location(s) where the records required to be maintained by paragraph (a) of this section are kept, and

(6) A prototype or production unit of that lighter model.

(c) *Confidentiality.* Persons who believe that any information required to be submitted or made available to the Commission is trade secret or otherwise confidential shall request that the information be considered exempt from disclosure by the Commission, in accordance with 16 CFR 1015.18. Requests for confidentiality of records provided to the Commission will be handled in accordance with section 6(a)(2) of the CPSA, 15 U.S.C. 2055(a)(2), the Freedom of Information Act as amended, 5 U.S.C. 552, and the Commission's regulations under that act, 16 CFR part 1015.

§ 1210.18 Refusal of Importation.

(a) *For noncompliance with reporting and recordkeeping requirements.* The Commission has determined that compliance with the recordkeeping and reporting requirements of this subpart is necessary to ensure that lighters comply with this part 1210. Therefore, pursuant to section 17(g) of the CPSA, 15 U.S.C. 2066(g), the Commission may refuse to

permit importation of any lighters with respect to which the manufacturer or importer has not complied with the recordkeeping and reporting requirements of this subpart. Since the records are required to demonstrate that production lighters comply with the specifications for the surrogate, the Commission may refuse importation of lighters if production lighters do not comply with the specifications required by this subpart or if any other recordkeeping or reporting requirement in this part is violated.

(b) *For noncompliance with this standard and for lack of a certification certificate.* As provided in section 17(a) of the CPSA, 15 U.S.C. 2066(a), products subject to this standard shall be refused admission into the customs territory of the United States if, among other reasons, the product fails to comply with this standard or is not accompanied by the certificate required by this standard.

Subpart C—Stockpiling

Authority: 15 U.S.C. 2058(g)(2), 2079(d).

§ 1210.20 Stockpiling.

(a) *Definition.* "Stockpiling" means to manufacture or import a product that is subject to a consumer product safety rule between the date of issuance of the rule and its effective date at a rate which is significantly greater than the rate at which such product was produced or imported during a base period.

(b) *Base Period.* For purposes of this rule, "base period" means, at the option of the manufacturer or importer, any 1-year period during the 5-year period prior to July 12, 1993.

(c) *Prohibited act.* Manufacturers and importers of disposable and novelty cigarette lighters shall not manufacture or import lighters that do not comply with the requirements of this part between July 12, 1993 and July 12, 1994, at a rate that is greater than the rate of production or importation during the base period plus 20 per cent of that rate.

Dated: July 1, 1993.

Sadye E. Dunn,

Secretary, Consumer Product Safety Commission.

List of Relevant Documents

(Note: This list of relevant documents will not be printed in the Code of Federal Regulations.)

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Tab C — 1. Memorandum from D. Ray, ECPA to B. Jacobson, HS, "Analysis of Public Comments on Notice of Proposed

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Tab D — Memorandum from W. Mathers, EPHF, to B. Jacobson, HS, "Response to Comments on Notice of Proposed Rule (NPR) for Child-Resistant Cigarette Lighters," January 27, 1993.

Tab E — Memorandum from B. Jacobson, HS, to J. Hoebel, HS, "Protocol for Testing Child Resistant Lighters — Discussion of Comments Received in Response to the Notice of Proposed Rulemaking," March 30, 1993.

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