requirement, and there is no reason to believe that the packages of charcoal involved in these incidents did not bear labels warning of the CO hazard.

Half of the incidents occurred when the victims burned charcoal in their homes or in areas being used for living purposes. There were 52 cases where it was reported that victims used charcoal to keep warm. In nine incidents, there was an indication of an attempt to provide some ventilation. Most of the incidents occurred during the fall and winter.

An article prepared by Hampson, N.B. et al. (1994), reports that 79 victims were treated for CO poisoning resulting from burning charcoal indoors in the Seattle, Washington, area between October 1982 and October 1993. [3] Fifty-eight (73%) of the victims were members of ethnic minorities, many of whom were Hispanic or Asian immigrants who could not speak English. There was no information available, however, documenting whether they could read English.

C. The Pictogram

The CPSC staff, a charcoal manufacturer, and Dr. Neil B. Hampson of Washington State each developed a pictogram. [6, Tab E(2)] Each pictogram was tested according to ANSI Z535.3, American National Standard for Criteria for Safety Symbols.

The pictogram developed by CPSC staff obtained the highest percentage of correct responses in the first round of testing. This pictogram achieved 56% correct responses, with 4% critical confusion. (Critical confusion is where the message conveyed contradicts the intended message.)

Based on findings from the test results, the three pictograms were revised and presented for a second round of testing. The revised pictogram developed by a charcoal manufacturer obtained the highest percentage of correct responses in this round of testing (74% correct responses, with no critical confusion).

The ANSI Z535.3 test method recommends that, to be selected, a pictogram should obtain 85% correct responses with a maximum of 5% critical confusion. In this case, however, the staff believes that, for the following reasons, it is appropriate to use the pictogram that scored highest [6, Tab E(1)]:

1. Stringent criteria were used to select the subjects, which helps to assure a rigorous test. Fifty subjects were tested (50% Hispanics who did not read English and were at or below the poverty level, and 50% people who do read English and were below the median income). No middle or upper income people were included in the test.

2. Had the pictogram been tested in context (i.e., on bags of charcoal), the 85% level might have been attained.

3. The 74% correct responses for the pictogram chosen does not differ greatly from the 85% ANSI criterion. Furthermore, the tested pictogram had no critical confusion in the responses, while ANSI allows 5%. This is significant because a person who believed that the pictogram meant that it was appropriate to burn charcoal indoors could be more likely to do so.

Staff previously recommended that if the pictograms did not adequately communicate the safety message, the safety message should be presented in both English and Spanish. As discussed above, the Commission concludes that the pictogram does adequately convey the message. However, according to the contractor who administered the test, a clinical psychologist who regularly works with low-income Hispanics, many in the target population are unable to read either English or Spanish. [6, Tab E(2)] Therefore, a safety message in Spanish instead of a pictogram would not necessarily reach those Hispanics who do not read English.

Additionally, while the largest single group of minority victims identified in the CPSC data is Hispanic, others, most notably Asian immigrants who do not read English or Spanish, would not be informed by a label in Spanish.

Accordingly, a pictogram appears to be the most effective measure to address those who do not read English. The Commission does not believe that a label that combines both English and Spanish warning statements with a pictogram is warranted. For the reasons discussed above, the Commission cannot conclude in this case that such a label would be significantly more effective than one combining a pictogram and a warning statement in English. Furthermore, including both languages and a pictogram on the label would increase the size of the label, with potential adverse economic effects on the industry. See the discussion of label size below in section E of this notice.

A charcoal grill manufacturer objected to some features in the depiction of the grill in the pictograms that were tested. [7] The manufacturer stated that the depiction of a grill with three legs and a semi-ellipsoid shaped kettle, as in the tested pictogram, violated registered trademarks of its brand of grill. The Commission's Human Factors staff concluded that a pictogram that depicted a grill with four legs and a shallower shape of the kettle would communicate the idea of a charcoal grill at least as well as the tested version. Accordingly, the proposed pictogram differs from the most successful one tested in those regards. The fact that the Commission is proposing these changes from the tested pictogram should not be interpreted as an opinion on the validity of the relevant trademarks or as a waiver of any right in the nature of "fair use" that the Government may have to use a trademark without authorization.

During the development of the proposed label, the Commission's staff discussed with industry whether the pictogram should appear above or to the side of the warning statement. Industry noted that allowing the pictogram to be beside the warning statement would reduce the vertical height of the revised label. As discussed below, increasing the minimum allowed height of the label can have an adverse economic effect on producers of bags for charcoal. The Commission's staff also concluded that placing the pictogram to the left of the warning statement will make the label more appealing visually and thus more effective. Accordingly, the Commission is proposing to require the pictogram to be adjacent to, and to the left of, the warning statement.

D. The Warning Statement

The Commission proposes that the revised label should explicitly state: "CARBON MONOXIDE HAZARD— Burning charcoal indoors can kill you. It gives off carbon monoxide, which has no odor. NEVER burn charcoal inside homes, vehicles, or tents." The rationale for the revisions to the label is discussed briefly below [6, Tab E(1)].

Statement of Hazard. To motivate consumers to comply with the label, it is important that the label explicitly state the hazard, i.e., that burning charcoal indoors can kill due to the production of CO. Thus, the label states "CARBON MONOXIDE HAZARD."

An early draft of the label used the term "CARBON MONOXIDE POISONING." This was changed because industry claimed that the term could be interpreted by some consumers as inaccurately warning that charcoal cooking could poison food.

Statement of Consequences. The phrase "cause death" in the current label should be replaced by the more personal phrase "can kill you." Research indicates that personalizing the warning will make it difficult for users to conclude that the warning is not directed at them and, therefore, that it is not important to comply with the warning.