

LOG OF MEETING
DIRECTORATE FOR ENGINEERING SCIENCES

SUBJECT: Meeting of ASTM Work Group on Portable Bed Rail Performance Requirements

DATE OF MEETING: December 15, 1999

PLACE: U.S. Consumer Product Safety
Commission Engineering Laboratory,
Gaithersburg, MD

LOG ENTRY SOURCE: Scott Heh, ESME *SH*

COMMISSION ATTENDEES: Scott Heh-ESME, John Preston-ESME, Mark Kumagai-ESME, Terry Van Houten-ESHF, Robert Hundemer-LSE, Suad Nakamura-HS, George Sushinsky-LSE,

NON-COMMISSION ATTENDEES: Jeff Lipko-ITS, Bob Waller-JPMA, Kandi Mell-JPMA, Mike Young-Early Development Co., Paul Ware- Safety 1st

SUMMARY OF MEETING

The meeting began with demonstrations of two designs of portable bed rails. First, the CPSC staff demonstrated a rough concept design for a portable bed rail that was designed to prevent gaps from forming between the mattress and rail and thereby reducing the risk of entrapment injury. The concept model has a clamping mechanism that attaches the rail to the mattress. The rail itself is shaped in a triangular wedge and is positioned on top of the mattress edge. The wedge shape helps to ensure against the formation of gaps between the rail and the mattress. The CPSC staff suggested that a new bed rail design based on this concept model could meet the proposed performance requirements that were drafted by CPSC technical staff.

A second portable bed rail that is commercially available in the United Kingdom (U.K.) was also demonstrated. This bed rail has tubular leg components that slide between the mattress and box spring and extend across the width of the box spring. The two leg components have a 90-degree bend that hooks around the edge of the box spring at the side opposite the railing. This hook-on design helps to prevent the bed rail from sliding away from the mattress edge and reduces the likelihood of the formation of a potentially hazardous gap in which a child may become entrapped. CPSC staff suggested that with minor modifications, the U.K. hook-on bed rail could also meet CPSC staff proposed performance requirements.

The demonstrations were followed by a discussion of the CPSC staff proposed draft performance requirements. In summary, the CPSC draft specifications require that a gap between the bed rail and bed be limited to prevent the passage of a torso probe that has dimensions based on the torso of a 3-4 month old infant. The size of any gap, in the bed rail, or between the bed rail and mattress, is tested by seeing if the torso probe will fit within the gap when a 50-lbf outward force is applied to the bed rail. The 50-lbf was based on strength studies of children in the 4 to 5 year age range. Some of the members of the working group disagreed with the

performance requirements, believing that the supporting rationale was not appropriate and that it resulted in performance tests that were unnecessarily extreme. Some of those that disagreed felt it was inappropriate to base sections of the performance requirements on the size of an infant since portable bed rails are only intended to be used with children over 1.5 to 2 years of age. CPSC staff stated they felt the torso probe dimensions should be based on a 3-4 month old child since one of the fatal incidents involved a 3-month old and four more fatal incidents involved children 7 months or younger.

The meeting members felt that agreement would not be reached at this meeting. Further, since a number of the working group members were not able to attend this meeting due to schedule conflicts or transportation mix ups, it would be beneficial to schedule another meeting or conference call in late January when more of the working group members could participate in the discussion. The meeting adjourned.

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