



NATIONAL ASSOCIATION OF STATE FIRE MARSHALS

Government Relations

August 24, 2004

Ms. Margaret Neily
Director, Combustion and Fire Services Division
United States Consumer Product Safety Commission
4330 East-West Highway
Bethesda, MD 20814

Dear Ms. Neily:

As you proceed in the development of fire safety standards for mattresses and bed clothing, the National Association of State Fire Marshals (NASFM) wishes to share the following information and observations of its members.

There should be no question about NASFM's support of the mattress flammability test method developed by the National Institute of Standards and Technology (NIST). This test method should serve as a model in that it so well replicates real-world mattress and bedding fires.

The California Bureau of Home Furnishings and Thermal Insulation (the Bureau) says it will begin enforcement January 1, 2005, of Technical Bulletin 603 (TB 603). The Bureau has adopted two key pass/fail criteria. The first criterion is the 200 kW peak heat release threshold. A 200 kW fire is still considerable, but acceptable as a major step forward. The second criterion is the threshold of 25 MJ total heat release in the first 10 minutes of the test. NASFM regards both of these criteria as excellent reductions in the very high rates of energy generated by today's mattresses.

NASFM's only real concern with California's TB 603 is the 30-minute duration of the test. In anticipation of this requirement, Underwriters Laboratories reports that mattress producers are now subjecting their products to testing, and that many are satisfying the criteria of the test for times longer than 30 minutes, and some for longer than an hour. Legislation now pending in the New Jersey State Senate and Assembly would set a test duration of 60 minutes, as would the American Home Fire Safety Act (S. 1798, H.R. 4233) now before the Congress. The technologies for improved fire resistance are widely available. Cost obviously is a factor.

Although the Commission may be required to make economic concessions, we believe that the only safety-related question remaining is whether the duration of the test is sufficient to ensure public safety. Dr. William Grosshandler, chief of the Fire Research Laboratories at the NIST and a member of NASFM's Science Advisory Committee, has addressed the duration of the test by saying, "It depends on what the goal is."

In our view, if the goal is to enable alert and able-bodied persons to escape a mattress fire, then 30 minutes is, in fact, more than adequate. But we would hope that the goal is to improve the survivability of our most vulnerable citizens, *i.e.*, the physically challenged, very young and very old, who are most likely to require rescues by emergency responders. If this is the goal, the duration of the test must be consistent with what we know about fire department responses in the real world.

Much has been made about the term, "response time." The term is improperly used to describe the time from ignition to the point at which firefighters are able to safely begin rescue operations.

The duration of the test should be based on data quantifying the seven steps that always occur with fires requiring an emergency response. The following values were proposed by Gary Powell, Alaska State Fire Marshal, and Chief Philip Stittleburg, La Farge, Wisconsin Volunteer Fire Department, and accepted as a consensus position of this association. For the record, Chief Stittleburg is chairman of the National Volunteer Fire Council. This Fall, NASFM will seek to further refine these values through surveys of fire departments and emergency service training academies. We welcome any data that can add to our greater understanding of the time required.

Definitions for each step are shown in the table. The term "Best Case" describes fires when all goes right – unfortunately, a rare occurrence. "Average Case" describes typical circumstances. "Rural Case" covers responses by all-volunteer fire departments.¹ The "Rural Case" values are regarded as very conservative. The distances traveled by volunteers to apparatus at fire stations and then to incidents can vary widely – adding substantial time to responses in some cases.

Step	Best Case	Average Case	Rural Case
1. Detection – The time from ignition to when a person decides to call firefighters for help. ²	5	15	15
2. Notification – The time to reach a phone and make the call.	2	3	3

¹ According to the National Volunteer Fire Council, 75% of all fire departments are all-volunteer, another 15% are predominantly volunteer, and 45% of the US population is protected by volunteers.

² Human behavior in the incipient stages of a fire is the subject of several scientific inquiries. NASFM's Science Advisory Committee will comment separately on this step. The values shown here are intentionally conservative.

Step	Best Case	Average Case	Rural Case
3. Dispatch processing – The time for a fire dispatcher to alert the closest fire departments.	1	2	2
4. Turn-out – The time for firefighters to don protective gear and reach the apparatus.	2	8	10
5. Response - The time from leaving the fire station to arriving at the incident. ³	4	8	>16
6. Set-up – The time to unreel hoses, secure water supply, determine the seat of the fire and first placing the suppression agent on the fire.	2	4	6
Elapsed time from step 1-6	16 minutes	40 minutes	>52 minutes

The 30-minute test duration is insufficient in all but the “Best Case” scenarios, and even then provides little margin for error. Industry estimates of the cost of exceeding the 30-minute test -- which have been inflated to include significant mark-ups⁴ -- are not supported with data from independent sources and are, in any event, not persuasive when one considers that such costs would be spread across the lifetime of a mattress. The

³ NFPA 1710 sets 4 minutes for a fire department response. On April 30, 2003, NFPA President James Shannon testified before the Senate Committee on Commerce, Science and Transportation that according to the findings from the “Needs Assessment of the U.S. Fire Service,” (a study authorized by Congress and conducted by NFPA in cooperation with FEMA), “at least 65% of cities and towns nationwide don’t have enough fire stations to achieve widely recognized response-time guidelines. Those guidelines recommend that firefighters be on the scene of any situation within 4 minutes, 90% of the time,” and that “the picture is bleaker in our smaller communities.” Mr. Shannon’s full testimony and supporting documents are available at: <http://www.nfpa.org/Research/FireInvestigation/Homeland/Testimony/testimony.asp>.

⁴ Statement of the International Sleep Products Association before the California Bureau of Home Furnishings and Insulation regarding the proposed TB 603 Open-Flame Mattress Standard, April 22, 2003.

industry data fails to isolate the incremental cost of moving from 30-minute duration to some longer term. What we have seen is of insufficient quality and credibility to support the Commission's required cost-benefit analyses.

In summary, NASFM supports the NIST test method, as well as the pass/fail criteria of 200 kW peak heat release and 25 MJ total heat release in the first 10 minutes, but regards the 30-minute test duration as insufficient if the goal is to improve the survivability of those who are least mobile and would most require rescue. NASFM is willing to work with the Commission and the industry to determine a proper test duration that is effective and practical.

Finally, we agree with the need for an effective fire performance test and pass/fail criteria for bed clothing beyond the narrow definition in California state law, which addresses only filled products such as pillows, mattress pads and comforters.

We sincerely appreciate the Commission's work in this area, and have great hopes that at the end of the day, a mandatory national fire safety standard for these products will go far in protecting our most vulnerable residents.

Sincerely,

A handwritten signature in black ink, appearing to read "William Degnan". The signature is fluid and cursive, with a large initial "W".

William Degnan, Chair
Consumer Product Fire Safety Task Force

cc: NASFM membership