

LOG OF MEETING

SUBJECT: Upholstered Furniture Flammability

DATE: October 28, 1994

PLACE: CPSC, Bethesda, MD

Non-Commission Representative: Stan Ames, Fire Research Station,
England

Commission Representatives:

James F. Hoebel, ESME

Dale Ray, ECPA

Margaret Neily, ESME

Linda Fansler, ESME

Linda Smith, EPHA

Sheila Kelly, EPHA

Chuck Smith, ECPA

Log Entry Source: James F. Hoebel *J. Hoebel*

SUMMARY:

Mr. Ames described the mission and facilities of the Fire Research Station. He emphasized the benefits of visual aids (such as videotapes) in publicizing fire, and noted that they possess an excellent set of tapes.

Mr. Ames described the development of the British furniture regulations. The cigarette resistant law came first, in 1982, which included permanent labeling. The industry successfully avoided an open flame requirement at this time. There was virtually no observable effect on the industry, since the higher priced cotton lines were chemically treated as a result of the regulation. A match resistance law came into being in 1988, as a result of publicity by the British fire brigades and research at the Fire Research Station. The law provided a test for infill foam, covered by a standard fabric. The industry met the standard by going to a melamine-based foam (but polyester fiber couldn't pass the test). The standard was changed to use a #2 gas flame test for non-foam filling materials, which polyester fiber could pass.

In earlier tests for heat release rate, 11-12 percent melamine in foams helped delay the onset of flashover conditions (about 1,000 kilowatts peak) in a room fire.

Ames was concerned that the furniture industry may be gradually reducing the amount of melamine in foam to save costs, but this might adversely impact the peak rate of heat release.

In England, fire data is collected by the fire brigades, and they report all of the fires attended by the brigades. This system is coordinated by the Fire Research Station. The weakest

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link is the reliance on the opinion of the fire officer on the scene of the fire. Ames noted that there were 600 furniture-related fire deaths in the mid 1980s, and that currently there are about 300 such deaths annually in England. Ames is very interested in setting up some regular exchange of fire data.

Polypropylene fabrics generally fail the British match test without backcoating. Polyacrylonitrile velvet has become quite common, which is also back-coated to provide match resistance. Ames will provide a contact in England for further textile and testing information.

A recent development is the coverage of rental furniture (although there may only be a small effect because this provision cannot be effectively enforced).

Melamine, when burned, produces cyanide fumes which affect the toxicity of the smoke. However, Ames does not believe that this is a problem, because the melamine foam is harder to ignite and slows fire growth, so there is ultimately less toxicity.

Heat release is a critical parameter, since it influences heat production, smoke production, and toxicity.

Ames claimed that there has been almost no observable cost impact of furniture regulation in England. Consumer choice has been narrowed a little.

Recent activities in Europe were reviewed by Mr. Ames. The major "Combustion Behavior of Upholstered Furniture" (CBUF) project was described, which involved significant cooperative activity of 11 laboratories in eight countries. Their budget is about \$3 million. The Commission of the European Community has prepared a draft directive, containing Article 200 that sets forth guiding principles to achieve a high level of safety. The two "essential requirements" for furniture flammability are 1) prevent ignition and 2) the environment in the affected room should not endanger health for a reasonable period of time. There is a third essential requirement (special) addressing homes of older people. The first essential requirement is being addressed by EC, without direct involvement of England. This includes a weakened version of the British requirement, and an ISO match resistance test. For the second requirement, they are looking at either California 133 or the British foam test. The CBUF project described above is contributing to this requirement.

Other organizations involved include "Europur" (European Polyurethane Foam Industry Association), Centexbel (a European association of textile manufacturers), and EUFAC (the European version the UFAC).

Ames emphasized the importance of videotaping experiments.

Ames will try to provide copies of some of their effective

videotapes. CPSC will send Ames our recent smoke detector reports and the furniture ANPR.

Ames recommended that CPSC establish contact with Don Christian in the British Home Office, who has regulatory responsibilities (as contrasted to Ames' research responsibilities).