UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
4330 EAST WEST HIGHWAY
BETHESDA, MD 20814

This document has been electronically approved and signed.

DATE: September 25, 2019

BALLOT VOTE SHEET

TO: The Commission
Alberta E. Mills, Secretary

THROUGH: Mary T. Boyle, Executive Director
Patricia M. Hanz, General Counsel

FROM: Patricia M. Pollitzer, Assistant General Counsel
Hyun S. Kim, Attorney, OGC

SUBJECT: Upholstered Furniture Update 2019

BALLOT VOTE DUE: Tuesday, October 1, 2019

In the attached briefing memorandum, CPSC staff discusses current fire hazard data, staff's previous work on upholstered furniture flammability, and staff's recent activities with standards development organizations. Staff recommends that the Commission terminate CPSC's rulemaking on upholstered furniture and not promulgate any other existing upholstered furniture standard as a mandatory federal standard.

Please indicate your vote on the following options:

I. Adopt CPSC staff recommendation.

_____ _____
(Signature) (Date)

II. Do not adopt CPSC staff recommendation.

_____ _____

(Signature) (Date)

III. Take other action specified below.

_____

_____

_____

_____

_____ _____

(Signature) (Date)

Attachment: Staff Briefing Package "Upholstered Furniture Flammability; Staff Activities and Recommendation" September 2019.

Staff Briefing Package

Upholstered Furniture Flammability; Staff Activities and Recommendation

September 2019

For Additional Information, Contact:
Andrew Lock, Project Manager
Division of Engineering
Directorate for Laboratory Sciences
Office of Hazard Identification and Reduction
U.S. Consumer Product Safety Commission

UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
BETHESDA, MD 20814

Memorandum

Date: September 25, 2019

TO : The Commission
Alberta E. Mills, Secretary

THROUGH: Patricia M. Hanz, General Counsel
Mary T. Boyle, Executive Director
DeWane Ray, Deputy Executive Director for Safety Operations

FROM : Duane E. Boniface, Acting Assistant Executive Director
Office of Hazard Identification and Reduction

Andrew Lock, Ph.D., Project Manager, Upholstered Furniture Flammability,
Directorate for Laboratory Sciences

SUBJECT : Upholstered Furniture Flammability; Staff Activities and Recommendation

I. Introduction

In Fiscal Year (FY) 2016, U.S. Consumer Product Safety Commission (CPSC) staff produced a briefing package on upholstered furniture flammability and California's Technical Bulletin (TB) 117-2013 (TB 117-2013). The staff briefing package recommended terminating CPSC's upholstered furniture rulemaking and concluded that TB 117-2013 contained a number of limitations that weighed against adopting it as a national standard. The Commission did not accept staff's recommendation to terminate the rulemaking and, in the FY 2017 Operating Plan[1], directed staff to work with the state of California and applicable voluntary standards development organizations to improve upon and further refine the technical aspects of TB 117-2013. As described below, staff conducted the requested work; however, the voluntary standards organizations and California are limiting their activity on upholstered furniture flammability. In this memorandum, staff discusses current fire hazard data, staff's 2016 briefing package, staff's work with voluntary standards and California, other ongoing work with stakeholders, the limitations of TB 117-2013 (and similar standards), and staff's recommendation to terminate the upholstered furniture rulemaking.

II. Hazard Data

Based on data from the National Fire Incident Reporting System (NFIRS) and the National Fire Protection Association's (NFPA) Annual Survey of Fire Losses, CPSC staff produces estimates of fires and fire losses associated with specific consumer products. Staff's report, "2014-2016 Residential Fire Loss Estimates," provides the most recent total numbers of fires and losses from fires, where upholstered furniture was the item first ignited.[2] Of the estimated annual average of 4,400 fires, there were an estimated 470 deaths, 660 injuries, and $236.9 million in property

losses. Of these fire deaths, 230 (48%) were attributed to ignition of smoking materials, while 40 (9%) were attributed to small open flame, and 200 (43%) were attributed to "Other." "Other" refers to anything not attributed to smoking material ignitions or small open-flame ignitions. Upholstered furniture is typically the largest fuel source in a residential setting and usually contributes more than any other item to fire growth and flame spread. Thus, the hazards attributable to upholstered furniture fires may be underestimated because these incidents do not necessarily include fires where the upholstered furniture may not be the first item ignited, but that contributed most to flame spread.

Figure 1 shows the trend in deaths attributed to fires where upholstered furniture is the first item ignited.* Deaths (as well as injuries and property losses, which are not shown in Figure 1) have decreased substantially since 1980. The majority of the decrease in deaths correlates with the decrease in smoking material ignitions. Even with this decrease, smoking material ignitions are still the single largest portion of deaths compared to all other sources of ignition. Deaths attributed to small open-flame ignitions have remained fairly constant since 1980. Identifying a specific cause for the decreases in deaths attributed to smoking material ignitions is difficult due to a number of factors. For example, since 1980, significant changes have occurred

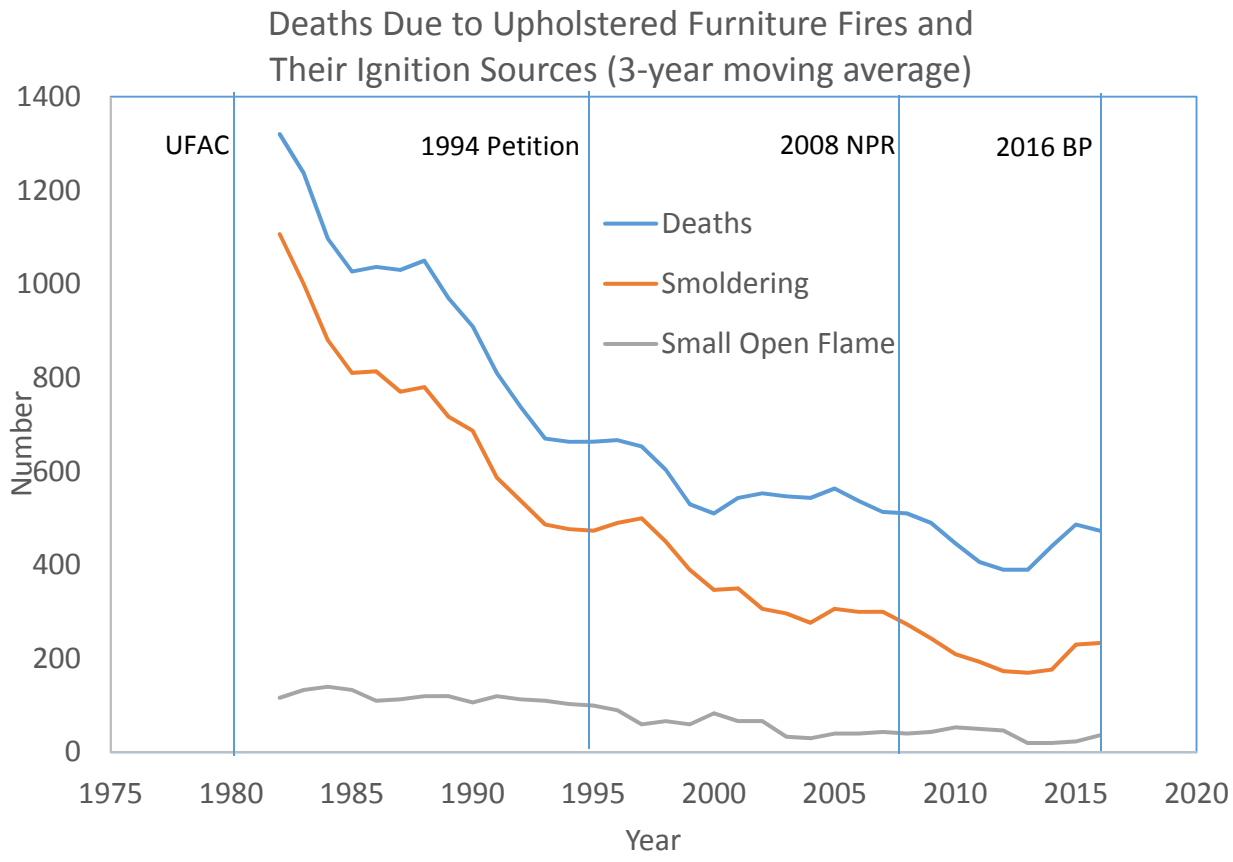

Figure 1. Reported deaths when upholstered furniture is the first item ignited. Total deaths, deaths attributed to smoldering ignition sources, and deaths attributed to small open flame ignition sources.

* Data taken from CPSC annual fire loss estimates, 1980-2016.

in building codes, materials in homes, materials used in upholstered furniture, fire department strategies, reporting culture, smoke alarm and sprinkler use, and smoking culture (*e.g.,* decrease in cigarette smoking, increase in use of e-cigarettes), as well as other technological changes in consumer products.

III. History of CPSC's Upholstered Furniture Rulemaking

Although the data show a downward trend in deaths (as well as injuries and property losses) over time, upholstered furniture remains a significant factor in many residential fire deaths, injuries and property losses. Staff's efforts to develop an appropriate flammability standard for upholstered furniture have, however, been unsuccessful.

On September 8, 2016, staff provided the Commission with a briefing package titled, "The Feasibility, Benefits and Costs of Adopting TB 117-2013 as a Mandatory National Standard." (2016 briefing package)[3]. The 2016 briefing package contained a comprehensive history of the project up to that point, which is summarized[*] in the bulleted list below.

- 1994: the Commission granted National Association of State Fire Marshals' (NASFM) petition to the CPSC to initiate rulemaking on upholstered furniture flammability, and rulemaking began with an advance notice of proposed rulemaking (ANPR) to address the risk of fires ignited by a small open flame.
- 1997: CPSC staff submitted an options package to the Commission to defer work on small open-flame ignitions of upholstered furniture to evaluate the health risks of some Fire Retardant (FR) chemicals.
- 1999: CPSC initiated a National Research Council (NRC) project to evaluate certain FR chemicals that may be used in upholstered furniture, which NRC reported on in 2000.[4]
- 2003: CPSC issued an ANPR expanding the rulemaking to address the risk of upholstered furniture ignited by smoldering ignition, as well as small open-flame ignition.
- 2008: CPSC issued a notice of proposed rulemaking (NPR)[5] with a test method very similar to standards issued by several standards development organizations:
    - Upholstered Furniture Action Council (UFAC),
    - ASTM E1353,
    - National Fire Protection Association (NFPA) 260, and
    - California TB 117-2013.

  The NPR noted that further work was required to validate the test method and show improved fire safety of finished furniture products.
- 2012: CPSC staff was unable to validate the 2008 NPR proposed test method, due to challenges with (1) scaling from a small mock-up to real furniture, and (2) identifying consistent standardized materials for testing.[6]

[*] Please see the 2016 briefing package for a complete history. https://www.cpsc.gov/s3fs-public/The%20Feasibility%20Benefits%20and%20Costs%20of%20Adopting%20-TB117-2013%20-%20September%208%202016.pdf

- 2013: California Bureau of Electronic and Appliance Repair, Home Furnishings, and Thermal Insulation (BEARHFTI*) changed Technical Bulletin (TB) 117-2013 to remove the open-flame component of the test and make the test method very similar to UFAC, ASTM E1353, and NFPA 260 with a few small technical changes.
- 2013: CPSC staff held a public meeting on barrier technologies and initiated a fire barrier test program.
- 2014: CPSC staff reported fire barrier test results for traditional upholstered furniture construction. Staff observed mixed performance of barriers.[7]
- 2016: CPSC staff reported test results on fire barriers used in combination with modified filling materials and loose-fill-backed chairs. Staff again noted mixed performance and unique challenges presented by loose-fill chair components.[8]
- 2016: CPSC staff submitted the 2016 briefing package to the Commission. Staff recommended terminating the rulemaking. In addition, staff recommended against adopting TB 117-2013.[3]

A. Summary of the 2016 Briefing Package

In the 2016 briefing package, CPSC staff evaluated the feasibility, benefits, and costs of adopting TB 117-2013 as a mandatory national standard. TB117-2013, a performance standard for flammability of residential upholstered furniture sold in California, uses a small-scale mockup test that includes a test method to evaluate components, including cover materials, used in the construction of upholstered furniture. The test is based on ASTM E1353, which, in turn, is based on UFAC, a voluntary standard with which there has been substantial compliance for 40 years. The test method is intended to address fires caused by a smoldering ignition source only. CPSC staff determined that this test method relies on inconsistent standard materials and uses char length, a two-dimensional metric, as a performance measure to quantify a three-dimensional phenomenon. This significantly limits the consistency and repeatability of the test. Specifically, the test mockup geometry, dimensional measurement, and pass/fail criteria do not produce sufficiently consistent results. As a result of these limitations, CPSC staff does not believe TB 117-2013 effectively addresses the hazard of smoldering ignition.

Staff also reviewed the 2008 NPR proposed standard for upholstered furniture flammability. The proposed test was based on modified versions of the small-scale UFAC test and the British Standard 5852, intended to address fires caused by smoldering ignition and small open-flame sources. After publication of the NPR, CPSC staff conducted additional verification testing that demonstrated the bench-scale test approach did not adequately predict the fire performance of finished production furniture.[6] CPSC staff's testing of upholstered chairs has shown that the small-scale test in the 2008 proposed rule does not adequately predict the flammability performance of real furniture, especially with smolder-prone cover fabric. Both TB 117-2013 and the 2008 NPR rely on a standard foam and a standard cover fabric for the test. Standardized materials are necessary for testing to provide reliable and consistent results. CPSC staff testing showed that it is extremely difficult to obtain sufficiently consistent standard foam and fabric

* The California Bureau of Electronic and Appliance Repair, Home Furnishings, and Thermal Insulation (BEARHFTI) changed its name in 2019 to the Bureau of Household Goods and Services (BHGS).

materials because of the nature of the materials and batch-to-batch variation inherent in the manufacturing process. [9]

Based on these analyses, CPSC staff determined that neither TB 117-2013, nor the Commission's 2008 NPR, will adequately predict real furniture flammability performance.

Accordingly, CPSC staff recommended that the Commission not adopt TB 117-2013 as a national standard. Staff also recommended terminating the current upholstered furniture rulemaking. CPSC staff concluded that the test methods in both TB 117-2013 and the 2008 NPR are not likely to result in any significant improvements in upholstered furniture fire safety. The Commission did not accept staff's recommendation to terminate the upholstered furniture rulemaking and, in the FY 2017 Operating Plan, directed staff to explore ways to improve TB 117-2013.

IV. Activities Since the 2016 Briefing Package

Following the 2016 briefing package, the Commission directed staff to work with the California BEARHFTI, as well as voluntary standards development organizations, to improve upon and further refine the technical aspects of TB 117-2013, while avoiding the use of toxic chemicals. Staff proceeded with activities summarized below.

A. California Activities

BEARHFTI, is a state consumer protection agency that, among other things, regulates furniture sold in California. In 1975, California initiated a mandatory standard, *Requirements, Test Procedure and Apparatus for Testing the Flame Retardance of Resilient Filling Material Used in Upholstered Furniture,* Technical Bulletin 117 (TB 117). The standard included both a smoldering and an open-flame test method for the resilient filling material of upholstered furniture (typically foam), and a minimal requirement for cover fabric flammability. BEARHFTI stated that manufacturers could meet the requirements of the pre-2013 versions of TB 117 by using polyurethane foam treated with flame-retardant chemicals. California revised this standard in 2013 (TB 117-2013). According to BEARHFTI, California revised TB 117 so that "the reliance on flame retardant chemicals will be significantly reduced or eliminated."[10] Specifically, the revised test removed the open-flame ignition test for upholstered furniture filling material and modified the cover fabric requirement to be a test based on ASTM International (ASTM) E1353-08a$^{\varepsilon 1}$. The ASTM standard is based on the industry standard that the Upholstered Furniture Action Council (UFAC) introduced in 1979. Approximately 90 percent of furniture production conforms to UFAC's voluntary industry program.[5] TB 117-2013 relies heavily on ASTM E 1353-08 a$^{\varepsilon 1}$ for its test method; it is a small-scale mockup test intended to address only fires caused by smoldering material.

After issuing TB 117-2013, California's BEARHFTI initiated a fire barrier test plan to assess fire barriers as a possible way to resist open-flame ignition. CPSC staff held regular discussions with BEARHFTI staff on the progress of the test program and provided advice. BEARHFTI produced a summary report[11] and a cost-benefit analysis[12] on the use of barrier materials, concluding that while barriers may provide some improved fire safety, it was cost prohibitive to require their use

in upholstered furniture in the state of California. CPSC staff has reviewed the studies and discussed them with the BEARHFTI staff, and does not dispute the reports' conclusions as presented.

CPSC staff continues to have regular discussions with BEARHFTI staff; however, BEARHFTI has no active work on standards development for upholstered furniture flammability, either residential or commercial. The most recent BEARHFTI activity related to upholstered furniture flammability, in January of 2019, was to repeal TB 133, a large open-flame test for furniture in commercial occupancies without fire sprinklers.

Although BEARHFTI is no longer actively working on developing their standards, they continue routine testing and enforcement. In December 2017, BEARHFTI reported that more than 94 percent of upholstered furniture samples the Bureau had tested complied with TB 117-2013's flammability requirements.[13]

B. Voluntary Standards Activities

CPSC staff has long been engaged in voluntary standards activities with both ASTM and NFPA. In the 3 years since the 2016 briefing package, staff has suggested changes to the ASTM and NFPA standards to improve repeatability and reproducibility of the tests and participated in new standard development activities.[14,15] A discussion of those activities follows.

1. ASTM

In 2016, ASTM subcommittee E05.15 initiated work on TB 117-2013, which is an active work item, WK56607. TB 117-2013 is based upon ASTM E1353 and is technically equivalent to the NFPA standard NFPA 260, "Standard Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture." CPSC staff requested technical changes to the ASTM E1353[16, 14], NFPA 260[15], and WK56607[14] to improve the adequacy and technical merits of the standards. These changes included:

- Removing draft-free enclosure (The draft-free enclosure could allow poor-performing material combinations that smolder with greater intensity to achieve better testing results (producing less mass loss) than they would without the enclosure, reducing the distinction between smolder-prone and non-smolder-prone materials);
- Improving specification of the foam used in testing;
- Increasing the thickness of the foam used in testing from 2 inches to 3;
- Changing the performance criteria to a mass-loss criterion, instead of char length.

In response to CPSC staff's suggestions, the ASTM subcommittee initiated limited round-robin testing, modifying foam thickness and using mass-loss instead of char length as a performance criteria. CPSC staff participated as one of the labs in the round robin. CPSC staff believes that ASTM's round-robin testing was inconclusive and limited in its scope, compared to CPSC staff's work on these issues. The ASTM study only involved five different cover fabrics, four of which performed very similarly. Because of the similarity, a range of performance was not evaluated, and there was no significant difference detected in the aspects being tested, specifically foam

thickness and mass loss versus char length. Prior CPSC studies involved dozens of fabrics and thousands of tests over years.[17,18] The subcommittee has concluded that its limited study demonstrates that no improvements would be gained through the changes CPSC staff suggested.[19]

2. NFPA

In parallel, CPSC staff worked with the NFPA Fire Test Committee to promote changes to NFPA 260,[15] the NFPA version of the UFAC standard, which was also technically equivalent to ASTM E1353 and TB 117-2013. NFPA considered all of the suggested CPSC staff changes listed above, and subsequently adopted modifications to foam thickness and foam specifications, but it deferred the rest of the changes to task groups, due to disagreements within the committee because of competing suggestions.

CPSC staff also worked with the NFPA Fire Test Committee on standards for open flame ignition of furniture (NFPA 277). This was a multi-year effort for an open-flame ignition test method by an NFPA task group. From the outset, committee members expressed concerns about the development of NFPA 277 due to the potential use of flame-retardant chemicals to meet any open-flame standard. Ultimately, NFPA 277 developed as a test that looked very similar to California's TB 133, "Flammability Test Procedure for Seating Furniture for Use in Public Occupancies," with more sophisticated measurement specifications. The NFPA Standards Council decided to terminate the effort, due to the lack of committee member consensus on the standard.

C. Congressional Activities

The U.S. Congress has proposed legislation to adopt TB 117-2013 as a national standard multiple times. The Senate introduced the Safer Occupancy Furniture Flammability Act (SOFFA), S.3551, in October 2018. A companion bill with identical language was introduced in the House of Representatives, H.R.4220. Both bills state that California TB 117-2013 shall be considered to be a flammability standard promulgated by the CPSC under the Flammable Fabrics Act. CPSC staff provided comments on each bill. The 115th session of Congress concluded without any further action on these bills. The bills were reintroduced in the 116th Congress in May 2019. The House bill, H.R.2647, and Senate bill, S.1341, were initially identical to the previous versions; however, some amendments were proposed in the Senate committee that would require that complying products bear a certification label. CPSC staff is continuing to monitor the congressional activities and is responding to inquiries, when requested.

D. Technical Meetings with Stakeholders

CPSC staff has held two technical meetings with stakeholders since the 2016 briefing package. On May 15, 2018, stakeholders made presentations on their different interests in upholstered furniture flammability and participated in panel discussions. Participants included representative of furniture manufacturers, flame-retardant chemical manufacturers, fire safety advocates, standards organizations, fire researchers, fire fighters, and health and environmental advocates. The more than 50 attendees had wide-ranging and spirited discussions on the issues and provided

potential solutions to upholstered furniture flammability. The meeting identified several ways to reduce upholstered furniture fires that would not involve rulemaking, including information and education, technology solutions, and improved data gathering. The group chose information and education and technology innovation as focus areas for the next meeting.

On August 8, 2019, staff hosted another technical meeting with working groups to address the two areas−information and education and technology innovation−identified in the 2018 meeting. These focused discussions, facilitated by CPSC staff, resulted in an agreement to form two working groups, with participation from the various stakeholders, for follow-up activity. The first group will develop messaging that manufacturers and retailers can provide at the point of sale to raise awareness of upholstered furniture fire safety and the importance of consumers having working residential smoke alarms. The second group will identify or develop potential new barrier materials that might be used in limited applications as a drop-in replacement for current materials, requiring little to no additional labor and simply replacing a component to improve fire safety. The follow-up work group meetings are not yet scheduled, but staff is engaged in planning and will take a strong role in execution of these meetings.

V. CPSC Staff Evaluation of TB 117-2013

TB 117-2013 is essentially the same as the UFAC standard that the upholstered furniture industry has had in place since 1979. Furthermore, the ASTM and NFPA standards are also the same as the TB 117-2013 standard, with minor variations. Notably, staff believes that the differences among all of these standards are small, and do not result in different furniture construction, if firms design to pass any or all of the tests. Although CPSC staff made efforts to work with ASTM and NFPA to improve technical aspects of these standards, the standards have not changed substantively. The safety of residential upholstered furniture from smoldering ignitions or open-flame fires will not improve by mandating any of these standards, given the length of time these standards have been in place and the fact that most upholstered furniture meets these standards. Below, we discuss the reasons for this assessment.

A. Description of TB 117-2013

TB 117-2013 consists of tests to evaluate the cigarette-ignition resistance of materials used in upholstered furniture. The test method focuses primarily on the cover material. The tests use a mockup assembly made of plywood and containing two pieces of the cover fabric to be tested and two pieces of standard foam. In a series of tests in which three mockups are tested simultaneously, a lit cigarette is placed into the crevice created by the mockup assemblies, and the cigarette is allowed to burn. If the cover fabric fails, a second series of tests is conducted using mockups with a barrier material and a standard cover fabric. Only the linear char length on the fabric surface in the vertical direction is recorded. Vertical char length measurements determine whether the individual components pass or fail TB 117-2013. An example of a smoldering mockup can be seen in Figure 2.

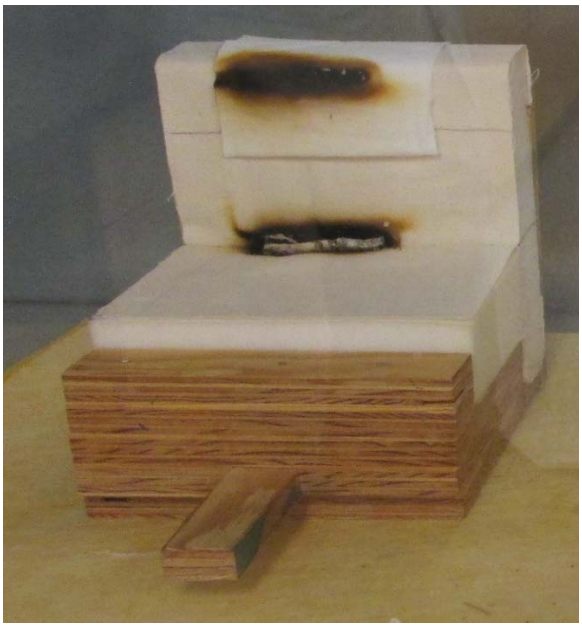

Figure 2. Example of TB 117-2013-style mockup posttest. Char length is measured up from the crevice vertically.

B. Test method does not relate to finished furniture in the real world

TB 117-2013 relies on a miniature assembly consisting of plywood, cover fabric, and foam (and, in some tests, a barrier material). Actual furniture is much more complex and variable than the simple mockup. These variations in size, shape, and construction can affect fire behavior. Figure 3 shows a tufted wing chair and a round ottoman, examples of geometry that differ from the mockup assembly. There are no studies that validate the results obtained using the small-scale test protocols in TB 117-2013 to predict full-scale furniture performance for smolder-prone fabrics. Following the 2016 briefing package, California conducted a limited comparison of bench-scale TB 117-2013 and full-scale smoldering tests[*] on chairs collected as enforcement samples, *i.e.,* not necessarily representative of the market. They found that, of the 85 chairs considered, 82 passed both TB 117-2013 and the full-scale smoldering test.[13] However, staff believes that this comparison did not validate the bench-scale test because the sample did not represent the market, nor did it demonstrate a comparison of results over a range of flammability performance. After the Commission published its NPR in 2008, CPSC staff conducted testing to determine whether the CPSC's proposed test method (which used a similar mockup to test ignition resistance of components) would sufficiently represent full-scale furniture (*i.e.*, actual pieces of furniture) in a smoldering-ignition scenario. This test method was similar to TB 117-2013, and it used the same materials employed in actual furniture to construct bench-scale mockups. Staff also conducted full-scale testing on pieces of furniture constructed with the same materials. After this testing, staff concluded: "bench scale performance did not demonstrate an adequate prediction of real furniture flammability performance, especially in smoldering ignition tests."[6]

[*] The full-scale tests were conducted according to California TB 116, "Requirements, Test Procedure and Apparatus for Testing the Flame Retardance of Upholstered Furniture," which is a full-scale, smoldering-ignition test for upholstered furniture.

Figure 3. Examples of problematic furniture to test to TB 117-2013. Left: a tufted chair that will have a perforated cover fabric, complex corners, and curves; Right: a small ottoman, from which it may not be possible to get fabric pieces large enough to test.

CPSC's testing, using a test method similar to TB 117-2013, indicates that the TB 117-2013 test method may not represent the flammability behavior of actual upholstered furniture. Given this testing, staff cannot determine that TB 117-2013, and the related upholstered furniture flammability standards, reliably result in safer finished furniture in the market.

C. Inconsistent test materials

CPSC staff's testing after the NPR also showed the difficulty in obtaining consistent standardized materials for testing. Staff repeatedly tried to obtain a standard polyurethane foam substrate to use in evaluating fabrics and barrier material.[9,17] Even with very detailed specifications, staff repeatedly received foam that varied in key respects, such as pore size, foam mass density, and air-flow rate. Similarly, staff worked to obtain a standard, type 2 cover fabric and encountered like problems related to cotton crop variations and inherent variations in the manufacture of the fabric. These characteristics in each material can affect flammability in critical ways. If "standard" materials necessary for testing are not actually standardized, testing results are not reliable and cannot be used to assess compliance to a standard. These variabilities in test materials that staff encountered when trying to validate the NPR's test method also affect the TB 117-2013 test method because the test methods are so similar.

D. Inappropriate test parameters

Aside from the variations in standardized materials, the TB 117-2013 test method presents other concerns. The test metrics, *i.e.*, the measurements to determine whether an item passes the test, do not adequately reflect the performance observed in mockup tests. TB 117-2013 uses a vertical char length to measure performance of the mockup.* However, staff has found that a vertical char length may not characterize accurately the smoldering ignition of materials. The test cigarette's smoldering causes irregular char damage that can go down and back into the supporting foam and the crevice of the mockup, rather than simply produce a single, vertical char

* A specimen fails if a vertical char length of more than 1.5 inches develops, the specimen continues to smolder after 45 minutes, or the specimen transitions to open flaming.

in the fabric. Staff has shown that weighing the amount of filling material consumed during the test would reflect more accurately the smoldering damage. Additionally, the thickness of the foam (2 inches) that is used in testing may allow the wooden mockup frame to become involved in the ignition process. The wood burning is not part of the test and may accelerate the burning of the foam material being tested. Increasing the thickness of the foam to 3 inches would provide a better indication of smoldering performance. As noted in this memorandum, staff has suggested these test method changes to ASTM and NFPA.

E. No improved safety

As noted, TB 117-2013 is equivalent to a UFAC industry test created in 1979. In 2008, staff estimated that more than 90 percent of furniture met that standard. The standards have existed in various forms for 40 years, and various groups, including the state of California, claim high compliance (greater than 90%). Staff's assessment remains that issuing a CPSC rule with requirements like TB 117-2013 would not improve the safety of upholstered furniture from the current level. Rather, it would establish, as a national standard, a test method that most manufacturers have met for 40 years. As such, no significant reductions in fire losses are likely to be realized by mandating requirements like TB 117-2013 as a national standard.

VI. Staff Recommendation

For the reasons stated in the 2016 briefing package and this briefing package, CPSC staff recommends that the Commission terminate rulemaking for upholstered furniture flammability.

In FY 2020, staff proposes to monitor and participate in voluntary standards activities, as appropriate. Staff will conduct follow-up technical meetings with stakeholders on the action items identified in the 2019 technical meetings.

VII. References

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[12] Wassmer, R., "A Cost-Benefit Analysis of Consumer Protection Through Upholstered Furniture Fire Barriers", June 2018
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[14] Lock, A., "CPSC Staff Experience Evaluating the Resistance of Upholstered Furniture to Smoldering Ignition", Presentation at ASTM E05 meeting, December 2015.
[15] Lock, A., Proposed changes to NFPA 260, submitted to NFPA Fire Test Committee, March 2016
[16] Khanna, R., Letter to ASTM E05.15 subcommittee chair Doug Sullivan, "CPSC Staff Markup of ASTM E 1353-08ae1, *Standard Test Methods for Cigarette Ignition Resistance of Components of Upholstered Furniture (ASTM E 1353)* and Supporting Rationale", June 2013
[17] Tao, W., 2005, *Evaluation of Test Method and Performance Criteria for Cigarette Ignition (Smoldering) Resistance of Upholstered Furniture Materials*, CPSC
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[19] Luedeka, R., "Round Robin Testing To Investigate Alternative Smolder Testing Smolder Testing Procedures & Materials", presentation to ASTM E05.15, June 24, 2018