

NFPA STANDARDS COUNCIL
HEARING ON THE RETAIL SALE OF
CONSUMER FIREWORKS

REPORTER'S TRANSCRIPT OF PROCEEDINGS

On Monday, June 2, 2008

At 8:06 a.m.

At Mandalay Bay Hotel & Casino

Las Vegas, Nevada

Reported by: Deborah Ann Hines, CCR #473, RPR

1 Appearances:

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3 JIM PAULEY - Chair

4 MILOSH PUCHOVSKY - Secretary

5 MAUREEN BRODOFF - Counsel

6 JOSEPH JARDIN

7 JAMES CARPENTER

8 KERRY BELL

9 DANNY McDANIEL

10 JAMES MILKE

11 RON FARR

12 MICHAEL NEWMAN

13 RALPH GERDES

14 PETER WILLSE

15 ROLAND HUGGINS

16 FRED LEBER

17 SHANE CLARY

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1 CHAIRMAN PAULEY: I'm going to go ahead and
2 call the hearing to order. I want to welcome
3 everybody to this Standards Council hearing on NFPA
4 1124, and in particular the retail sale of firework.
5 My name is Jim Pauly and I'm chairman of the Council.

6 In just a moment I'm going to ask everyone
7 at the head table to introduce themselves. There is
8 a stenotypist recording this entire hearing so I
9 would ask anyone that speaks during this hearing,
10 please preface your remarks with your name as well as
11 your affiliation. That way we can make sure that we
12 have it recorded in the record.

13 Let me review logistically how we're going
14 to proceed with this hearing. We do have a list of
15 speakers that have requested to speak. That list of
16 speakers, by the way, is published alphabetically.
17 It is not necessarily a list of order of speakers. I
18 would ask that you look at it, if you have seen the
19 agenda for this hearing, whereas I indicate to you
20 you may decide which input in these topics where it
21 is most appropriate for you to be able to speak based
22 on the particular interest that you have.

23 What we will do as soon as we finish
24 introductions, we've essentially broken this down
25 into three different topics. Our first topic will be

1 a discussion on test reports on research needs and
2 other data pertaining to the retail sale of
3 fireworks. We do have a brief presentation on an
4 overview of the Research Foundation's report. And I
5 would make note that there are some handouts on the
6 back table that include the Research Foundation
7 report as well as some other documentation that might
8 be of interest to you.

9 We will then also hear discussion about
10 other relevant tests or test results that have been
11 conducted or other research needs or data that may be
12 necessary pertaining to this. We will also at that
13 time I will open it up after those speakers and
14 people who want to speak on that topic, I will open
15 it up for questions from council. When we complete
16 that we will go on to the topic, the second topic
17 will be a discussion about the adequacy of the
18 current provisions in Chapter 7 of NFPA 1124. And we
19 will have a discussion and speakers on that topic as
20 well as questions from council. And then the final
21 topic will be a discussion on courses of action to be
22 considered by the Standards Council and any general
23 comments associated with that.

24 So let me at this moment take an opportunity
25 to introduce the head table, and I'll finish up the

1 logistics after that. And if we could, Ron, if we
2 can start with you and I'm going to pass the
3 microphone down. They're going to have some table
4 mikes here in a few minutes but we'll use this one to
5 start.

6 RON FARR: I'm Ronald Farr, member of
7 council.

8 MICHAEL NEWMAN: I'm Michael Newman, member
9 of council.

10 RALPH GERDES: Ralph Gerdes, council member.

11 PETER WILLSE: Peter Willse, member of
12 council.

13 ROLAND HUGGINS: Roland Huggins, council
14 member.

15 FRED LEBER: Fred Leber, council member.

16 SHANE CLARY: Shane M. Clary, member of
17 council.

18 MILOSH PUCHOVSKY: I am Milosh Puchovsky,
19 NFPA staff and secretary to the council.

20 MAUREEN BRODOFF: Maureen Brodoff, legal
21 counsel to the Standards Council.

22 JOSEPH JARDIN: Joseph Jardin, member of
23 council.

24 JAMES CARPENTER: James Carpenter, member of
25 council.

1 KERRY BELL: Kerry Bell, member of council.

2 DANNY MCDANIEL: Danny McDaniel, member of
3 council.

4 JAMES MILKE: Jim Milke, council member.

5 CHAIRMAN PAULEY: Thank you. We have this
6 hearing scheduled until 'til 11:00 a.m. We will
7 complete on time at 11:00 a.m. The council will at
8 that time go into executive session and have a
9 discussion on this particular topic.

10 I do ask that we will take the speakers who
11 have requested time to speak will be those that have
12 priority on the list. As we get to the end of the
13 last topic, I will open it up to any other, provided
14 we have time to, any other people in the room that do
15 have a desire to speak.

16 There is a limited time to this hearing so I
17 ask that the speakers keep their remarks as brief as
18 possible. We did ask for written submissions on this
19 topic and the Council did receive a significant
20 amount of written material. All of the council
21 members have had and read that material, so I would
22 ask that you not repeat what you have submitted to us
23 in writing.

24 I will ask make note that the way we have
25 structured this agenda, we recognize that there are a

1 number of people who sent in written material
2 associated with the basic topic of don't do away with
3 Chapter 7, we need to have something associated with
4 the retail sale of fireworks. We did receive that
5 message in the written submission. We recognize
6 that. We recognize that there is a loud voice on
7 that particular topic, and it is the reason why we
8 have sort of structured the agenda to focus on some
9 of the other topics that are pertinent to this
10 particular issue, whether it be the research, the
11 provisions in Chapter 7 itself and the courses of
12 action that we may take.

13 I would say that we will, all of the debate
14 questions and comments will be through the Chair. We
15 will not have any of the speakers asking questions of
16 each other. That will all be directed through the
17 Chair and ultimately the questions will be asked by
18 the Council.

19 With that being said, I'm going to go into
20 the first topic, and that is on test results,
21 research needs and other data. And I know we have a
22 presentation on the Fire Protection Research
23 Foundation report. I think Jonathan Perricone is
24 going to come up. I do know we have two folks that
25 have requested to use PowerPoint. They will need to

1 come to the podium to do that just because of the
2 electronic arrangements that are here. All other
3 speakers I'm going to ask that you would use the
4 microphone in the center of the room.

5 JULIE HECKMAN: Good morning, Mr. Chairman.
6 I'm Julie Heckman with the American Pyrotechnic
7 Association and I would like to raise a point of
8 personal privilege or order for the Standards
9 Council. Based upon the agenda and how you outlined
10 the program for this morning and strongly indicated
11 to people who have submitted written testimony not to
12 revisit that in front of the Standards Council and
13 everyone thoroughly reviewed it.

14 Because the Fire Prevention Research
15 Foundation report is already an integral part of the
16 record for the hearing, and the Standards Council has
17 already considered this report, in particular as it
18 relates to consumer fireworks retail sales, I believe
19 there's no reason to set a time on the presentation
20 of the report.

21 It would be much better to use the limited
22 and precious time here today to allow people who want
23 to speak responsibly to that report to actually share
24 additional information so the Standards Council can
25 make key decisions. Thank you.

1 CHAIRMAN PAULEY: Thank you. I do
2 appreciate that point. I do want those, since the
3 Research Foundation report is really at the heart the
4 matter that is associated with the discussion and
5 deliberations, the decision that Council issued in
6 October, I do want to have an overview of that report
7 be done. It will not be a detailed review of the
8 entire report.

9 The reason why we have structured that topic
10 in that manner is I recognize there are some other
11 folks that would like to speak to test data and to
12 research needs and so forth on that topic. So I do
13 appreciate the point regarding the time, but I do
14 believe it's important in this hearing that people be
15 able to hear an overview of that Research Foundation
16 report.

17 JERRY FARLEY: Mr. Chairman, I just want to
18 ask you one question.

19 CHAIRMAN PAULEY: State your name for the
20 record.

21 JERRY FARLEY: Jerry Farley. I'm also with
22 the fireworks industry. You said that we have to --
23 you're going to divide this up into three sections
24 but some of us have remarks on each of the three
25 issues, so how are we supposed to address that?

1 CHAIRMAN PAULEY: That's fine. If you have
2 remarks on each of the three issues, you are
3 certainly able to speak on each of those three
4 issues.

5 JERRY FARLEY: Each time?

6 CHAIRMAN PAULEY: Each time. If for your
7 remarks you feel like they are so tied together that
8 you need to make those statements at once, that's
9 fine, but I'm really trying to allow us to focus in
10 on the particular topic at hand. And so I'll leave
11 it up to you as you speak if you believe you can
12 phrase those remarks associated with each issue or if
13 it needs to be grouped.

14 Okay, very well. We'll proceed with the
15 first presentation. Please.

16 JONATHAN PERRICONE: Good morning, everyone.
17 My name is Jonathan Perricone with Schirmer
18 Engineering, as most of you I'm sure are aware.
19 Schirmer Engineering was hired by the Fire Protection
20 Research Foundation to be an independent researcher
21 to appraise the technical basis for the requirements
22 currently contained in NFPA 1124 as well as to try to
23 establish recommendations for the way forward.

24 Not, I've been given about ten minutes to
25 try to sum up a lengthy report, so I'll try to do

1 this fair quickly.

2 I'd like to start by jumping in right away
3 into the definition of the consumer fireworks. NFPA
4 1124 definition are fireworks device in a finished
5 state that are suitable for public use within the
6 context of the construction, performance, composition
7 and labeling requirements of CPSC and the and
8 American Pyrotechnical Association Standard 87-1.

9 I'm sure we're all familiar with the examples that I
10 have listed here.

11 Methods of packaging play an important role
12 here. I'd like to make a distinction between
13 packaging for the purpose of retail display versus
14 packaging for storage and transportation. In the
15 former case packaging is essentially used in the
16 standard as a method of security as well as to slow
17 flame spread potentially in the event of a fire.

18 The idea is to deny easy assess of handling
19 by the consumer prior to the purchase, and that's
20 done by packaging the commodity in an unperforated
21 container that can be constructed of paperboard,
22 cardboard, plastic wrap or some similar material
23 combination. Also there are provisions for the
24 restraint of aerial devices, such as that they do not
25 cause a projection hazard in the event of activation.

1 Here we have just a few examples put into
2 context of the type of facilities that we're dealing
3 with in NFPA 1124. We have an example of a store in
4 a strip mall, modular trailer. These are basically
5 to get the idea across of what we're dealing with
6 both temporary and permanent facilities.

7 Now, in order to try to sum up a very broad
8 amount of issues, in order to sum up a very broad
9 number of issues in a short amount of time, I thought
10 it would be useful to look at the standard through
11 the lens of the fire safety concepts tree, which is
12 developed by NFPA 550. And that tree essentially
13 breaks down fire objectives into the categories of
14 both prevention and mitigation.

15 And if we break down the provisions of NFPA
16 1124 as they currently exist, we see that, in fact,
17 they're fairly strong regarding prevention. I've
18 just thrown in a couple of examples here to show that
19 each element of the tree is addressed. As far as
20 controlling the source, there are methods for
21 elimination of the source or mitigation. I have
22 listed examples here prohibiting smoking with 50 feet
23 of consumer fireworks facilities. Also these in the
24 National Electric Codes, the intent of mitigating
25 potential electrical fire sources. Control of the

1 source fuel interactions, there are provisions to
2 both separate and control those interactions through
3 security as well as controlling the fuel. We have
4 the definition of the commodity in and of itself is
5 very powerful and it excludes more highly energetic
6 fuel potentially for the display of fireworks from
7 consideration of these facilities, and also
8 merchandise package is a tool we use to control the
9 fuel.

10 Managing the fire can be broken down into
11 three topics, controlling the combustion process,
12 suppression, and controlling the fire by
13 construction. Each of those topics is currently
14 addressed by the 1124 standard. For instance,
15 limitation of quantity and distribution, automatic
16 suppression is provided for permanent storage of a
17 certain size, 6,000 square feet for new facilities,
18 permanent storage through NFPA 13. Manual fire
19 suppression is provided in the form under NFPA 10,
20 extra hazard occupancy portable fire extinguishers.
21 Fire confinement is approached through the use of
22 flame breaks and package methods, and smoke and heat
23 venting for certain geometry.

24 Managing exposed is the element of the tree
25 that really refers to life safety, and that's

1 accomplished largely by the standard reference in
2 NFPA 101, Life Safety Code, specifically for
3 applications for mercantile occupancy. The idea is
4 make a manageable occupant load for the application,
5 move the occupants in the event of a hazard, and
6 provide the movement needs for safe destination.

7 I'd like to note that NFPA 1124 currently
8 references the Life Safety Code but there are
9 provisions above and beyond what would be required
10 for mercantile occupancy, such as the provision of
11 48-inch wide aisles, the provision of cross-aisles
12 for alternate paths of exit access and so on.

13 Now, the Fire Protection Research Foundation
14 specifically requested that Schirmer Engineering look
15 at loss history associated with the commodities, both
16 on an international and a domestic scale. Through
17 our research we concluded that the international loss
18 history is not directly relevant to the topic at
19 hand, primarily because consumer fireworks are
20 defined by NFPA 1124 are not consistently segregated
21 out from more energetic fuels in the international
22 community.

23 And I think it's an important point to say
24 that a lot of media attention is often devoted to
25 catastrophic incidents in the international

1 community, and this may skew public perception of the
2 risks associated with consumer fireworks because the
3 distinction is not always made in the media as to the
4 involvement of consumer fireworks versus the
5 involvement of display fireworks, for instance.

6 Domestic loss history is more relevant.
7 I've shown here that we have three to six incidents
8 reported since 1974. The reason why I provided a
9 range, and this through the National Fireworks
10 reporting, the reason why I provided a range here is
11 because for at least three of these incidents there
12 is not, the inventory was generally not well
13 documented and there's a possibility that it included
14 more than just consumer fireworks. So for that
15 reason it's unclear where we fall in the total number
16 of incidents. But regardless, the domestic loss
17 history is too sparse to be sole method of appraising
18 1124.

19 What we can learn from domestic loss history
20 is that at least four of these incidents were
21 malicious in nature, which is a very significant
22 percentage. The inventories are generally not well
23 documented. We don't really have any insight on
24 performance on suppression or controlling fire
25 movement, since that was not necessarily documented

1 in the fire investigation, and we only have one
2 incident resulting in loss of life or injuries in
3 Scottown, Ohio in 1996. Now, it's worth noting that
4 NFPA 1124 was not in existence when this incident
5 occurred.

6 Now, the Foundation also suggested that
7 Schirmer look at scientific concepts that perhaps
8 could be useful in the building standards. What I've
9 included here are some flame spread parameters
10 because I believe that packaging of these commodities
11 can be used as a tool to slow the spread of fire and
12 the growth of fire. What I've listed here, without
13 getting into too much detail on these formulas, is
14 basically saying that if we are to look carefully at
15 the material properties of packaging, such as the
16 density, the thermal conductivity and so on, we have
17 an opportunity to identify the performance objectives
18 and try to target perhaps a maximum rate of flame
19 spread and to try to achieve that performance
20 objective through scientific principles.

21 I believe there's an opportunity to optimize
22 the fuel distribution. Display height can be used as
23 a tool for fire control as well as visual security
24 and assisting in the means of egress. We know for
25 other applications display height, or height of

1 storage as it may be, significantly influences the
2 burning rate of the commodity.

3 There are a few questions as well for
4 optimizing fuel distribution. For instance, do all
5 consumer fireworks exhibit similar fire severity from
6 a fire protection standpoint. I was not able to find
7 an answer to that question in my research.

8 Sprinkler protection. What determines
9 whether a particular facility should be equipment
10 with sprinkler protection. Primary it's the analysis
11 of the time available for egress has to be greater
12 than the time necessary. For most of these
13 facilities, structural fire protection is not a
14 primary concern, but the primary concern by far is;
15 life safety.

16 We need to have some way of estimating fire
17 severity on a predictable, repeatable way both with
18 and without sprinklers to make a determination
19 essentially. For those facilities that would require
20 sprinkler protection, how fast of a response, what
21 discharge characteristics do we need to achieve the
22 performance response. Currently we have one
23 published full scale fire test where ESFR sprinklers
24 provided fire control.

25 Controlling fire movement. Again, venting

1 the fire. Smoke and heat venting capacity is
2 currently prescribed without experimental validation
3 for this particular application. I believe that's an
4 important area for more research. Confining the
5 fire. Currently the target maximum rate of flame
6 spread for the use of flame breaks to confine the
7 fire is unclear.

8 And managing exposed. Again the time
9 available for egress has to be greater than the time
10 necessary. If there are potentially any unique
11 egress issues that have to do with a rapid occupant
12 response, that's something that may be explored,
13 although certainly now that 1124 is in existence
14 since the Scottown incident, and the Life Safety Code
15 is referenced, perhaps such a rapid occupant response
16 is not necessarily.

17 The main conclusions of my report, I believe
18 what I walk away with after this report is that I
19 believe it's reasonable to assume that the overall
20 level of fire safety has increased under the current
21 version of NFPA 1124. There is sparse loss history
22 as well as sparse experimental data that make it
23 difficult to approach the problem of optimization,
24 but that's certainly the database of experimental
25 data can be added to in the future. The ideal level

1 of protection is a standard with all provisions based
2 on verified and validated concepts, and I believe
3 that all standards need development toward this goal.

4 CHAIRMAN PAULEY: Thank you. What I'll do
5 next is, if you'll go ahead we'll wait until we get
6 some questions and you'll be available for any
7 questions that we may have from this council if we do
8 that.

9 JONATHAN PERRICONE: Sure.

10 CHAIRMAN PAULEY: What I would also like to
11 do, staying within this particular topic, is my
12 understanding is there's at least one other
13 presentation but also whether there was any
14 particular order among those folks and how you wanted
15 to discuss other test results that have been done or
16 what research needs or data may be out there, is the
17 second presentation, would you like to go now or do
18 you have another? Please.

19 JOHN CONKLING: Good morning. My name is
20 John Conkling. I'm the member of the Technical
21 Committee on pyrotechnics. I'm retired as the
22 executive director of the American Pyrotechnics
23 Association. I've served on that committee since
24 1981. I'm the senior member of the committee in
25 terms of longevity of service.

1 I've been actively involved in fireworks and
2 pyrotechnics for more than 35 years. I've been
3 involved in numerous tests regarding the fire
4 behavior of consumer fireworks as well as display
5 fireworks in my professional career.

6 I'm here today to urge the council to leave
7 Chapter 7 in NFPA 1124. It's a document that was
8 prepared, reviewed and adopted in full compliance
9 with all NFPA rules and procedures for the processing
10 of codes and standards.

11 In addition, I recently served as a member
12 of the Technical Committee panel for the Fire
13 Protection Research Foundation's project that
14 Mr. Perricone just gave a very nice discussion of.

15 The final report submitted by Schirmer
16 Engineering, I wish it had contained his slides. I
17 mean, they were I think a very, very good summary of
18 what was in the report and conclusions that we draw
19 from the report. Unfortunately much of what he just
20 presented was not directly part of the report.

21 The one point in the report that I want to
22 emphasize, there is no clear distinction in the
23 report between consumer fireworks that comply with
24 all the U.S. regulations that Mr. Perricone just
25 mentioned and incidents involving other types of

1 fireworks, particularly in other countries where the
2 strict regulations that we have here in the United
3 States are not present. They tend to misrepresent
4 these incidents, tend to misrepresent hazards posed
5 by products meeting United States' requirements.

6 Secondly, consumer fireworks do contain
7 pyrotechnic composition, and there is one lengthy
8 discussion in the report of heats of reaction,
9 sensitivity, burning rates for fireworks
10 compositions, but consumer fireworks contains 75
11 percent or more inert paper, cardboard, clay. They
12 tend to insulate the composition from adjacent items
13 containing that composition, and the report does not
14 really mention that this significant presence of
15 non-pyrotechnic material, particularly where they
16 have discussions of flame temperatures, heat of
17 reaction and sensitivity of the composition.

18 Third, there are two tests discussed in the
19 report by Schirmer Engineering, one by Battelle at
20 Aberdeen Proving Ground in Maryland and another in
21 Washington state. These use seized fireworks of
22 uncertain origin. None of the products contain the
23 fuse covers, the packaging that are now required by
24 1124-2006. These tests by Battelle and in Washington
25 state should not be used as the reason to jettison

1 Chapter 7. Instead they should serve as a reason to
2 keep it in the document and continue to improve the
3 document through NFPA's committee process.

4 There has been testing performed by the
5 fireworks industry and in conjunction with a task
6 group established for the committee on pyrotechnics
7 by, I believe it was the Standards Council. This
8 testing has been ongoing at Southwest Research
9 Institute in San Antonio. In fact, we were ready to
10 begin the testing when the announcement was made of
11 the project to do a literature review of consumer
12 fireworks. We postponed the testing pending the
13 outcome of the report to see if there were any
14 additional aspects of the fire behavior that we
15 should be looking at in our testing. You will hear
16 some testimony following my brief presentation by a
17 gentleman from Southwest Research who will describe
18 what they did.

19 The other point the report by Schirmer
20 Engineering totally ignores the standard setting
21 activities and the testing activities of the American
22 Fireworks Standard Laboratory, or AFSL, as well as a
23 new requirement in NFPA 1124 that all consumer
24 fireworks must undergo independent third party
25 testing prior to retail sale to determine compliance

1 with all applicable regulations. This testing will
2 be expanded if 1124 continues on track to include the
3 testing for covered fuse and the testing for
4 packaging that are now required in 1124. The
5 American Fireworks industry had a third party testing
6 program in China where the vast majority of our
7 consumer fireworks come from since 1994, and a vast
8 majority of the products that come from the U.S. are
9 tested under this program.

10 NFPA 1124 makes this third party testing
11 mandatory in areas where the code is in effect. This
12 is a topic that Schirmer Engineering, it certainly
13 would have been beneficial to have that in the
14 report. Removing Chapter 7 would remove this third
15 party testing requirement from areas that have
16 adopted 1124. And we feel that this is one of the
17 most critical aspects of consumer fireworks safety.

18 The industry and the Technical Committee on
19 pyrotechnics are committed to further testing,
20 further study, further analysis, welcoming
21 participation from other parties such as IFMA to join
22 us in this.

23 For Heaven's sake, please leave Chapter 7 in
24 1124. Let the Technical Committee on pyrotechnics,
25 which has the experience and technical knowledge to

1 deal with these issues, discuss them and continue to
2 improve 1124. And now I will yield to the gentleman
3 from Southwest Research.

4 CHAIRMAN PAULEY: Thank you. Coming up if
5 you would, when you get up please just state your
6 name and affiliation for the record.

7 BARRY BADDERS: My name is Barry Badders.
8 I'm with Southwest Research Institute. I was
9 responsible for conducting the testing. I've got
10 mountains of data and very limited time so I want to
11 kind of fly through this and just give you a real
12 brief overview.

13 Just a quick outline. I'll go through a
14 quick introduction, very brief about the test setup,
15 test matrix. I'll spend most of my time on the
16 results, one slide of conclusions and hopefully have
17 some time for some questions if anyone wants to know
18 what we did and how we did it.

19 The test is sponsored by the American
20 Fireworks Standards Laboratory. The purpose was to
21 document the fire performance of consumer fireworks
22 retail sales displays with various risk mitigation
23 techniques applied. The mitigation techniques
24 included fuse covers, flame breaks within the
25 gondolas, aerial device containment, and sprinklers

1 within the test building.

2 The test setup. The facility we used was a
3 65 by 65 by 65 building that has a movable ceiling
4 that we set at a 17 foot height. On that ceiling we
5 have a sprinkler grid that, well, I'll get to that in
6 a second. We had two 16-foot long by six-foot tall
7 gondolas set four-foot apart. There was a full range
8 of consumer fireworks used in merchandising the
9 gondolas. The sprinkler system was on a 10 foot by
10 10 foot grid. The heads were Viking VK100 standard
11 response, we did not use quick response, 165 degree
12 element and half inch orifice with a K factor of 5.6
13 and the design density was point two gpm per foot
14 squared.

15 The instrumentation. We put thermocouple
16 trees within the aisles between the gondolas,
17 thermocouple within the gondolas and we measure flame
18 temperatures as well as monitor the flame spread
19 through the shelf. Heat flux measurements at the
20 target shelves and CO measurements within the space.

21 I don't know how well that shows up there.
22 You can see the two gondolas set up. Shelf A was the
23 initial shelf, shelf B was the target shelf on the
24 opposite side of the gondola, and shelf C was the
25 target shelf across the aisle from the gondola. The

1 two thermocouple trees were spaced six feet apart
2 centered in the aisle, shelf B was left blank. It
3 wasn't merchandise, and then the red circles
4 represent the sprinkler grid, the sprinkler array.

5 Here are some photos of the setup. We did
6 12 tests total, 9 within the display gondolas and
7 three with pallet height displays. The results
8 parallel each other between the pallets and the
9 gondolas, so I'm only going to talk about the
10 gondolas.

11 The test matrix included a worst case all
12 the way to various levels of mitigation. You can see
13 that we did the nine gondola tests and three pallet
14 tests. I'm going to talk about test one, which was
15 the worst case, which was just the stock gondola, no
16 mitigation technique, and test six, which represented
17 everything being applied from fuse covers, flame
18 breaks, aerial containment, and sprinklers.

19 So the results of test one, no mitigation
20 technique. We lit the fuse of the ignition device
21 and almost immediately the devices became involved.
22 The target shelf across the aisle, shelf C was
23 involved 45 second later. By 25 minutes the fire had
24 decreased to smoldering paper. At 27 minutes we went
25 in with garden hoses and extinguished the smolder.

1 Posttest observations revealed that the
2 fireworks, all the fireworks were consumed. There
3 wasn't an unburnt fuse within the facility. And
4 aerial devices were scattered throughout the building
5 and there was extensive damage to the gondolas.

6 Here's a photo of the initial ignition
7 device. It is identified as just a round sound and
8 it was on the bottom shelf of shelf A.

9 Here's a photo posttest looking down at the
10 aisle. On the left is shelf A, the right is shelf B.
11 You can see the damage to the gondolas and all the
12 burnt debris within the aisle.

13 Test six, all mitigation techniques were
14 implemented. Two minutes 20 seconds after igniting
15 the fuse other devices became involved. This test
16 was a little easier to get ignited than some of the
17 other ones. We did the fuse covers. The first one
18 we did with fuse covers we went through three devices
19 trying to get ignition started and then ultimately
20 put a wastepaper basket with 11 sheets of crumpled
21 newspaper in it to get a fire started. We had a very
22 difficult time doing so.

23 But on test six, three minutes and 40
24 seconds after we were able to get the fire going, the
25 target gondola became involved. At three minutes 45

1 seconds the first sprinkler activates. Twelve
2 minutes there was no visibility, no evidence of
3 sparks or reports from within the building. And by
4 25 minutes we went in and extinguished the smoldering
5 paper.

6 Posttest there's minimal amount of devices
7 on floor. Many of the devices were unburnt, intact,
8 undamaged. Four sprinkler heads activated to control
9 and contain the fire.

10 There's a photograph of the initial ignition
11 device. It was the same throughout the test. You
12 can see the fuse covers is the white caps on top of
13 the neighboring devices and the hardware clothe that
14 was used as a containment for the aerial devices.

15 Also in the back you can see the metal
16 backing on the shelf. That was used as a flame
17 break. Not shown in this photo but in another photo
18 you'll see we have flame breaks perpendicular within
19 the shelf.

20 Here is a similar photo from test one
21 looking down the aisle. That's looking at shelf A
22 where the ignition source was. The only burning we
23 really had was on the bottom two shelves, and it's
24 important to note that the sprinklers were shielded
25 in those areas. The water couldn't get there.

1 The top shelf that you see, the damage is to
2 the packaging. We didn't have any devices involved
3 in the top shelf. The sprinklers did a sufficient
4 job in wetting them and keeping the fire off the top
5 shelf.

6 Also across the aisle you can see a little
7 bit of shelf C where there was some burning on the
8 first two shelves but there were also quite a few
9 devices that remained.

10 Here's the backside of shelf D. No damage,
11 no involvement there. You can see the flame breaks
12 got hot. I don't know if you can see it in that
13 photo, but the galvanized footing on the sheet metal
14 was burnt off. It was hot enough to do that.
15 Packages were pushed up against the back of that and
16 not enough heat to ignite those.

17 Here's another photo of shelf C. That's the
18 bottom directly across from the ignition source. You
19 can see the perpendicular flame break just to the
20 right there where there's burnt debris on one side
21 and then undamaged devices on the other side.

22 So for test one here's the temperature
23 profile that we got from thermocouple tree B located
24 within the aisles. The vertical green dotted line
25 represents that point that we lit the fuse. So there

1 was a little bit of time delay before the fire really
2 got going and then there was a slow decay.

3 What's important to note on this slide
4 before I go to the next one is that it's a 2,000
5 degree temperature scale. Our temperatures were
6 around 1400 degrees with peaks around 1800. This is
7 very typical for a cellulose type fire, not which you
8 see in a hydrocarbon fire.

9 Then here are the results for test six.
10 Again the green line represents the point that we lit
11 the fuse. The blue line is the point that the
12 sprinklers first activated. The scale on this one is
13 only 700, so you can see that our temperatures were
14 averaging around 250 degrees and peaking around
15 500 degrees Fahrenheit before the sprinklers
16 maintained control. And there was much quicker decay
17 down to a hundred degrees throughout the remainder of
18 the test.

19 We did take CO measurements and did a
20 subsequent analysis on that. We used the SFPE
21 handbook, third edition, section two, chapter six.
22 The Stewart Equation, for short exposure at high
23 concentration as the percent carboxyhemoglobin with
24 30 percent incapacitation, using that we got .0135 at
25 31 minutes 55 seconds, so you're a little more than a

1 percent from the 30 percent.

2 A better method is to use the fractional
3 incapacitation dose where we did scan rates every
4 five seconds so every five seconds we'd look at the
5 CO measurement, take the fractional dose, at the end
6 of the test sum them up. The 35 minutes when we put
7 the fire out and stopped logging data we were at .66.
8 Incapacitation occurs at .1 so there's still a 44
9 percent safety margin for this scenario setup.

10 Conclusions. The fuse covers significantly
11 decreased the ability to start a fire. Fuse covers
12 significantly decreased the growth of a fire during
13 the early stages. The containment bins helped
14 contain the aerial devices, decreasing the fire
15 spread. The metal flame breaks were effective in
16 decreasing the spread of fire. The sprinklers were
17 capable of reducing the intensity and containing the
18 fire.

19 With all mitigation measures, the fire was
20 difficult to start and numerous devices remained
21 unburned after the test with fire damage confined to
22 the ignition area. Incapacitation from CO by the
23 fires in these tests was not a threat. So with that
24 I'm done.

25 CHAIRMAN PAULEY: Thank you. I'm going to

1 open it up at this point to other speakers, and if
2 you would be available too for any questions as we
3 get to those from council. So I'll go to the floor
4 mike, and again I'll remind everybody, you've been
5 doing a good job so far, if you'd continue to state
6 your name and who you represent for the record.

7 RICK THORNBERRY: Thank you, Mr. Chairman.
8 I'm Rick Thornberry with the The Code Consortium and
9 I'm also consultant to the American Pyrotechnic
10 Association.

11 CHAIRMAN PAULEY: Can you do that again. As
12 we were shuffling up here I think it was --

13 RICH THORNBERRY: Rick Thornberry with The
14 Code Consortium and I'm consultant to the American
15 Pyrotechnic Association. And, Mr. Chair, before I
16 begin my remarks, because we just got the agenda a
17 couple days ago, and it's caused me to regroup, and
18 then some of the statements I heard earlier that you
19 made at the beginning of this meeting tended to
20 indicate that the Council was taking a different
21 direction, at least in the perspective of not
22 considering to go ahead with the deletion of Chapter
23 7, and I presume as well not with the changing of the
24 scope of the Technical Committee on pyrotechnics. Is
25 that kind of the basis for this hearing at this

1 point?

2 CHAIRMAN PAULEY: The Council has not had
3 any deliberations or discussions based on the data
4 that they have had. What I was trying to indicate
5 was based on the written submissions that we've
6 received, that message regarding a need for Chapter 7
7 was one of the messages that was conveyed.

8 All I wanted to point out for the body is
9 since that is in the written material, simply coming
10 to the microphone and repeating we need a Chapter 7
11 is, you know, I wanted to indicate that was clear to
12 us in the written testimony that we got.

13 We have not deliberated either the scope or
14 the deletion of Chapter 7 issue. We will not do any
15 of that until after this public hearing is complete.

16 RICK THORNBERRY: Okay. Thank you very
17 much. Because the main reason I wanted to rise and
18 speak, and I did submit at fairly lengthy written
19 comment to that effect, was to respond to some of the
20 points made or the recommendations made in the
21 executive summary to the FPRF report that
22 Mr. Perricone presented, but in his presentation to
23 me it didn't even resemble his report. I was a
24 little surprised. I think the presentation may be,
25 well, I won't go there but it certainly wasn't what I

1 got out of the report.

2 But I was glad to see it because I think it
3 put it in perspective where the real issues are and
4 what's been done with NFPA 1124, and it is, Chapter 7
5 certainly is a good document, and of course like any
6 NFPA standard, or part of a standard, it continues to
7 evolve. And that's what the industry is involved in
8 doing is to help that evolve and do an even better
9 guide or tool to use by the enforcement authorities
10 to provide for reasonable safety in consumer
11 fireworks retail sales venues.

12 But since the Standards Council has relied
13 so heavily on the report, I thought it would be
14 important to at least, from my perspective, take on
15 some of those recommendation and indicate why I
16 didn't think, after I reviewed it, to my perspective
17 that such a reaction should have been contemplated by
18 the Standards Council, such a drastic reaction.

19 So I'm going to kind of highlight those to
20 show you where I'm coming from from my analysis. And
21 I'm just going to go by items numbers that are
22 indicated in the executive summary.

23 The first one is a very benign
24 recommendation. It doesn't really cause any problems
25 whatsoever. It simply indicates more research should

1 done to evaluate properties with small amounts of
2 flash powder, but it really isn't necessary because
3 right now we rely on the CPSC criteria for a
4 definition of what consumer fireworks is.

5 And we also have it mentioned AFSL and label
6 for CPSC compliant that are required by Chapter 6.
7 So I think that issue is a non-issue. If you want to
8 talk about international issues, they simply comply
9 with that. If we want to take a little different
10 tact, I don't think that's a technical issue, I think
11 that's a political issue of how we address it on an
12 international scale.

13 Item two I think is also benign. It simply
14 states that NFPA 1124 addresses inspection, security
15 and safety training personnel. We saw some of that
16 up on the fire safety tree slide that 1124 is
17 addressing some of these important factors, and I
18 didn't really see that there was anything in that
19 recommendation that brought any concern to anybody.

20 Item three, I didn't see that as being
21 sufficiently serious. It says there's a need for
22 each of these rates using the cone calorimeter to
23 assist in determining an appropriate sprinkler system
24 design. Well, I submit that the better way to do
25 that is to do a full scale test. Secondly I submit

1 that the cone calorimeter is not the right tool for
2 assessing how consumer fireworks are going to release
3 heat. They contain oxidizers. You can't use the
4 cone effectively to do that. They're a complex
5 commodity device. They're not plainer in most cases.
6 Very difficult when the cone calorimeter stands with
7 four-by-four-inch basically flat sample that goes in
8 the cone. And it's because of the energetic nature
9 of some of these products, there's no way you're
10 going to test this in the cone. So that's
11 theoretically just not practical. And there's other
12 ways to go after it. There's tests to try to assess
13 how we can determine the appropriate design criteria
14 for a sprinkler system.

15 Item four, again I don't believe it's
16 sufficient serious to justify what's being proposed.
17 It states the heat combustion may be useful for
18 comparison to commodity classification. That's fine.
19 To me that's mainly for determining, again, sprinkler
20 design. Why else would we be interested in that. So
21 we've already talked about that. I don't need to say
22 anything more.

23 Item five, I didn't even find the
24 recommendation on item five. It's theory of
25 discussion of flame spread versus flame temperatures

1 and insulation capability of packaging. And you
2 heard the presentations by Mr. Perricone that
3 packaging is a good mitigation strategy, and it
4 certainly is basic to what's being proposed or what
5 is now in Chapter 7 of 1124, and it's cardboard, it's
6 cellulose. We know the characteristics of cellulose.
7 The know the characteristics of cardboard. This
8 isn't rocket science.

9 Item six, I didn't consider that to be a
10 sufficiently serious recommendation. Basically it
11 says contain smoke data from cone calorimeter testing
12 to use in modeling studies for evaluating design
13 methods for smoke removal. Well, I saw it presented
14 a little bit differently in one of the slides
15 Mr. Perricone presented, but again, trying to use a
16 cone to come up with that data is not going to get us
17 anywhere. We've got to do it other ways if we want
18 to do that.

19 And again I submit that some full scale
20 testing is helpful. I think what's unique about
21 consumer fireworks is the fire, is that consumer
22 fireworks generate their own smoke as well as the
23 product as it burns and the packaging as it burns
24 produce smoke. Because you get visual effects from
25 consumer fireworks, a lot of the visual effects will

1 leave smoke, and some of it's colored smoke.

2 So we have some different issues here
3 because you don't necessary have the hot smoke being
4 generated that's a result of a burning commodity but
5 rather there's a cooler smoke that's being generated
6 that changes the dynamics in the smoke layer, etc.
7 So we're aware of that. And certainly more research
8 could be done there but we don't see that as a fatal
9 flaw.

10 Item number seven, again I don't consider
11 this to be sufficiently serious. Research, it says
12 research occupant loads during peak conditions of
13 occupancy to establish appropriate exiting criteria.
14 Well, I thought NFPA 101 had already done that in
15 mercantile occupancies in general. You know, we have
16 precious time for shoppers. I'm sure that's just as
17 dense as the Fourth of July time for shopping for
18 consumer fireworks.

19 And, in fact, in NFPA 101 is only the basis
20 from which we start. And I think either one of
21 Mr. Perricone's slides indicated that. 1124, Chapter
22 7, has a lot more requirements than 101 for means of
23 egress, and even goes beyond the high hazard contents
24 criteria in NFPA 101 for mercantile occupancies. So
25 we don't think that's a real issue. It's not really

1 a problem. We think it's easily dealt with already.

2 Item eight, it's an interesting
3 recommendation but again not sufficiently serious.
4 It talks about ignition characteristics of packaging
5 consumer fireworks may be evaluated the way you
6 quantify flame spread hazard, that's fine. I think
7 we've already talked about that.

8 Item number nine, no specific recommendation
9 made. It suggests the heat release data contained
10 from the cone calorimeter may be used to determine
11 appropriate testing for sprinkler system design.
12 We've already talked about that.

13 Item ten, I don't think it's sufficiently
14 serious. It says we need a deeper understanding of
15 the criteria for exempt amounts, including exempt
16 amounts allowed for sprinkler increases. Wouldn't
17 this be true for all hazardous materials that are
18 regulated now by NFPA 5000 and NFPA 1? That's where
19 we based our criteria in 1124. It came right out of
20 NFPA 1 and NFPA 5000 and, by the way, it also came
21 from the IBC and the IFSC. All the codes are
22 consistent on the exemption amounts of hazardous
23 materials related to consumer fireworks. They're
24 identical.

25 Item 11, this is a question, it's not even a

1 recommendation. It says is NFPA 101 appropriate for
2 egress provisions within consumer fireworks retail
3 sales. I think we've already talked about that.

4 Item 12, I don't see that as -- it suggests
5 that communication occur between NFPA and ICC.

6 That's awful nice. The IBC and IFC have no clear
7 scientific basis for regulating consumer fireworks.

8 That's an interest challenge. I'm not sure, we can
9 talk about it all we want but how does that affect
10 what we're doing here right today and your decisions
11 to delete Chapter 7 and get rid of the scoping
12 provisions that allow Chapter 7 to be written by the
13 pyrotechnics Technical Committee.

14 I guess what's also interesting to point out
15 in the basis is that Chapter 34, high hazard content,
16 because NFPA 5000 exempts NFPA 1124 compliant
17 consumer fireworks retail sales venues from the
18 requirements of Chapter 34 for high hazard consents,
19 because they feel that they're absolutely addressed
20 in 1124. Imagine NFPA 5000, one of your codes,
21 already recognizes 1124 as being satisfactory for the
22 purpose of regulating hazardous content.

23 Item 13, to me that's benign recommendation.
24 The scope of NFPA 1124 should be expanded. Imagine
25 that, expand the code to be more internationally

1 based to coincide with the international issue in
2 NFPA, but you want to reduce the scope of the
3 pyrotechnics technical committee and get rid of
4 Chapter 7. Curious to me.

5 So I guess my summary is if I sound, I don't
6 mean to sound disrespectful, but the question is
7 where's the beef? Where did the Standards Council
8 find that there was such an overwhelming
9 preponderance of evidence given in the FPRF report to
10 trigger such a drastic reaction as deleting Chapter 7
11 and reducing the scope of the pyrotechnic technical
12 committee so they can no longer address the
13 regulation of consumer fireworks retail sales. I
14 don't see it.

15 From my perspective the bottom line is this:
16 Don't delete Chapter 7. You've already mentioned
17 that you've heard plenty of that and I want to
18 reinforce it. I've been working on it since day one.
19 Don't delete the regulation of retail sales consumer
20 fireworks from the scope of the pyrotechnic TC. Do
21 allow the pyrotechnic TC to proceed with the
22 development of the three standards that have been on
23 hold to implement Chapter 7, the standards that
24 relate to packaging, covered fuses and flame breaks.
25 And do allow the pyrotechnic TC to continue work and

1 improve Chapter 7 with NFPA consensus process. Thank
2 you.

3 CHAIRMAN PAULEY: Thank you. Continuing in
4 this topic, again relative to test results, research
5 needs and data, so I would invite other speakers that
6 would like to speak on this topic, please use the
7 floor mike.

8 JERRY FARLEY: Yes, Mr. Chairman, my name is
9 Jerry Farley. I've been a consultant since 1982 for
10 American Promotion, Inc., which is a consumer
11 fireworks retailer and wholesaler.

12 I've been active in writing statutes and
13 regulations and ordinances and everything on
14 fireworks, and I'm a code consultants during all
15 those years, all the way from Florida to Vermont and
16 Connecticut, to Washington, Oregon, Idaho, Montana
17 and Alaska and Hawaii and everyplace. You name it
18 I've been there.

19 And I'm an alternate member of the technical
20 committee on pyrotechnics and have been involved from
21 the beginning in the development of the Chapter 7 and
22 also a member of the technical committee on fire
23 marshal professional qualifications. I appreciate
24 being appointed to that committee because I know it's
25 important to have somebody like me on that committee

1 because most of the time fire marshals don't deal
2 with seasonal products like fireworks. So I thought
3 it was a good idea that that standard have something,
4 some attention to the season type of issues.

5 And my comment here is about the Washington
6 state test, which is featured in the report. And I'm
7 happy to say that there's two of us now in the room
8 who were there at that test. Thankfully the
9 gentleman who was then the Clark County fire marshal
10 of Clark County, Washington, the fire marshal who was
11 responsible for that test and myself, there may have
12 been others, but at least the two of us were there.

13 This is my comment about that test: The
14 report does not indicate what should be said, which
15 is that some of the product was not suitable for sale
16 and would never have been allowed for sale in a
17 normal stand in Washington then or now. And of
18 course none of the product at the time of the test
19 would have qualified, would have met the NFPA 1124
20 standard.

21 But the important thing is Washington had
22 developed a comprehensive regulation, statewide
23 regulation for retail sales of consumer fireworks.
24 And the purpose of the test was to validate or to
25 question some of the criteria in that standard. And

1 as a result of that test the Washington regulation
2 was improved. And I think that we need to thank the
3 gentleman from Clark County for that.

4 And more importantly the Washington
5 regulation is directly related to and found
6 specifically within Chapter 7. We took the
7 Washington regulation when we started it within the
8 fireworks industry to develop Chapter 7, and as a
9 consequence my point is the following: We have been
10 learning as we go. And that research that was done
11 that day in Clark County, Washington has helped make
12 Washington's regulation better and NFPA Chapter 7
13 better.

14 But it was not a perfect test like most of
15 them are. So all of the conclusions of this part of
16 my testimony is we need to stay on course. Chapter 7
17 needs to stay. The technical committee needs to have
18 its scope reaffirmed. And if I had any other
19 recommendation it would be that this Standards
20 Council urge a national standard like Chapter 7 for
21 everywhere in this country.

22 CHAIRMAN PAULEY: Thank you. Further
23 testimony on this topic?

24 PAUL DOVE: Thank you, Mr. Secretary, or,
25 excuse me, Mr. Chairman, Mr. Secretary and members of

1 the Council. First of all, I'd like to apologize if
2 I may be out of order. My name is Paul Dove, fire
3 marshal, city of Coldwater, Michigan and also past
4 president of the Michigan Fire Inspectors Society.
5 My comments will be referring to all of the topics
6 that in an effort to not have to come back I'd like
7 to proceed now, if I may, Mr. Chair.

8 CHAIRMAN PAULEY: Please.

9 PAUL DOVE: Thank you. Those of us in
10 attendance today should all be familiar with the
11 historical references to 1124 among all the codes.
12 With that being said, other national codes permit the
13 retail sale of consumer fireworks in mercantile
14 occupancies in quantities less than 125 pounds and in
15 case up to 325 pounds where sprinklers and various
16 storage arrangements exist.

17 As documented in a full scale fire testing
18 of 1.4G composition conducted by the fireworks
19 industry and others, as little as 45 cases of product
20 ignited an exposed a fire, created untenable
21 conditions within 29 seconds at the floor, and
22 further testing with 100 cases in sprinklered
23 buildings created similar untenable conditions.

24 A presumption of eliminating the committee's
25 scope could create conditions where local

1 jurisdictions and officials would have to enforce
2 will as a logical conclusion if this Council goes
3 through with this action. In most cases these
4 materials will continue to be sold in mercantile
5 occupancies and locally owned retail chains
6 throughout the country despite this Council's
7 actions.

8 The reality coupled with the potential
9 actions contemplated presents code officials with an
10 increasingly difficult task and interpretational
11 dilemma in lieu to evidence that exists in full scale
12 testing. Some full scale testing, or some of the
13 information in the research report that I saw from
14 the second presenter may not have appeared to have
15 full packaging, the mixed packaging that we see
16 currently in retail facilities nationwide in large
17 mercantile chain occupancies.

18 We in the code development and enforcement
19 community must, in the best interest of service to
20 the public that we are responsible for, need to
21 create technically sound reasonable regulations
22 acceptable to the majority of the stakeholders'
23 interest. It is with the utmost respect that we
24 strongly urge this Council to put forth a challenge
25 and put forth a challenge to the consumer fireworks

1 manufacturing industry to use the information that's
2 contained in this report to further advance the
3 codes.

4 The Michigan Fire Inspectors Society
5 supports maintaining the technical committee's scope.
6 We would also support actions to transfer the scoping
7 responsibilities to other technical committees that
8 may be affected. However, in the best interest and
9 service to our public, we cannot support any effort
10 or campaign to remove regulations. The ordinary
11 shopper looking for fruit or cold medicine is
12 currently exposed to potential life safety hazards
13 far too great to leave these materials unregulated.
14 We speak for them.

15 Now, can these issues be resolved and can
16 the safety hazards be mitigated? We believe the
17 answer is yes. The identifying needs to solicit
18 technical and scientific research to substantiate
19 future code development will provide as the codes
20 evolves. Furthering the code's evolution will give
21 officials trying to deal with these materials a
22 technically sound foundation to work from.

23 The Fire Protection Research report
24 indicates problems in these areas and just serves
25 notice that the existing codes, either code body's

1 code, do not sufficiently or adequately address the
2 concerns or the hazards that are inherent, such as
3 fire protection system limitation, ceiling heights,
4 building construction, egress travel distance and
5 arrangement, material packaging, mechanical system
6 failures, separation from accidental and malicious
7 ignition, and most importantly, protecting the
8 exposure to the non-purchasing public.

9 Technical committees must continue to review
10 and act on future scientific evidence and research
11 that's essential to the development of substantiated
12 codes. Continuing in this long-standing tradition
13 will assure that our collective goals and the
14 interest and the service for our public is highly
15 maintained.

16 I would like to thank the Standards Council
17 at this time for giving me the opportunity to testify
18 on behalf of the city of Coldwater, Michigan Fire
19 Department and Michigan Fire Inspectors Society. I
20 respectfully submit this testimony. Thank you.

21 CHAIRMAN PAULEY: Thank you. Further
22 comments? You have the floor mike please.

23 KEN ISMAN: Thank you. Ken Isman with the
24 National Fire Sprinkler Association. The NFSA is not
25 in favor of eliminating any chapter or portion of

1 NFPA 1124. We are concerned about the information
2 that, I wasn't sure whether to stand up on the
3 portion of the meeting or the adequacy of current
4 provisions or test results because ultimately we're
5 concerned that currently Chapter 7 is inadequate and,
6 therefore, more testing is needed, so a dual
7 situation there.

8 Our concern with Chapter 7 is that it
9 requires fire sprinklers to be installed when
10 consumer fireworks reach some existing limit within a
11 facility, a retail sales facility, and then provides
12 the user with discharge criteria for that fire
13 sprinkler system, and that discharge criteria appears
14 to have been pulled together from some comparison of
15 consumer fireworks to paper matches and allows the
16 retail sales operator to have up to 12-foot high
17 storage of consumer fireworks with an ordinary hazard
18 group 2 sprinkler system, which the sprinkler
19 industry feels is inadequate to the task.

20 Now, we have seen some fire tests, stuff
21 that was done in the past, the work that was
22 discussed in the report by Battelle, which there is
23 some question about, we understand those questions,
24 and then the work that has been done by Southwest
25 Research that we have just seen today. So we need

1 some time to evaluate that, but we're not convinced
2 that a comparison to paper matches is the right way
3 to adequately characterize consumer fireworks.

4 We note that in NFPA 13 there is actually a
5 distinction in the way we treat paper matches to
6 wooden matches. And even if you were trying to
7 decide if consumer fireworks were somewhat similar in
8 how they burned to matches, I don't know if planned
9 on paper matches versus wooden matches, but if you
10 decided just to err on the side of being a little
11 more conservative and going with wooden matches, the
12 protection criteria would be much greater than what
13 would be required for paper matches, which is what
14 they pulled and wrote into NFPA 1124.

15 Going a little further we have in
16 discussions with the folks in the fireworks industry
17 over the years about fireworks burning similar to
18 wooden pallets. And their conclusion from that was,
19 well, if they burn similar to wooden pallets then we
20 must be okay with ordinary hazard group 2, but that's
21 also not the case in that wooden pallets are an
22 extremely difficult fire to deal with, and NFPA 13
23 would not allow you to handle up to 12-foot high
24 wooden pallet storage in the course of NFPA ordinary
25 hazard group 2 either.

1 So we're extremely concerned that we have an
2 NFPA code or standard that has design criteria for
3 sprinkler systems in it as a portion of the body of
4 the document that is in our consideration probably
5 inadequate protection. And there are other NFPA
6 standards that have addressed this problem over the
7 years and have dealt with it in other ways. Rather
8 than put specific discharge criteria into the
9 standard, they have developed other ways of getting
10 some recommendations out there without necessarily
11 having them have the force or effect of an NFPA code
12 or standard.

13 For example, for many years we didn't know
14 how to design closed head foam water discharge
15 systems, and so the and NFPA 16 committee, not
16 wanting to develop a standard on the subject where
17 they weren't really sure of the criteria, they
18 developed a recommended practice instead, and NFPA
19 16A was published as a separate document that was a
20 recommended practice until many years later, hundreds
21 of fire tests could be done, both small scale bench
22 tests and a full scale fire test, to develop that
23 document into a full standard that was eventually
24 folded into NFPA 16 once we had a much better handle
25 on what was going on.

1 The same thing happened with NFPA 30 many
2 years ago. There were sprinkler criteria for
3 protecting flammable and combustible liquids, but we
4 weren't positive that it was going to work in all
5 aspects and all configurations, so rather than put it
6 in the body of the standard it was put in an
7 appendix. Appendix D for many years of NFPA 30 was a
8 specific appendix that gave you some recommendations
9 on how to protect flammable and combustible liquids
10 with sprinklers but we weren't positive it was going
11 to work really well and so it was much better to have
12 that material in an appendix rather than have it in
13 the body of the document until we could get to the
14 point where we had done enough full scale fire
15 testing to be sure what we were doing and then move
16 the requirements or the recommendations into the body
17 of the code in that case.

18 So with fireworks we have a situation here
19 where we're not sure of the criteria. The industry,
20 the fireworks industry came to the sprinkler industry
21 with some recommendations for NFPA 13 on how to
22 protect their fireworks. The NFPA 13 committee
23 rejected that information and said, We don't believe
24 that's adequate protection, so then the fireworks
25 industry just put it in their standard 11.4 instead

1 and that's our concern that we have this NFPA code or
2 standard out there with what we feel to be is
3 possibly inadequate protection.

4 Now, we have this Southwest Research test to
5 look over, and I'm very interested to see that. I'd
6 like to read that report and really get into what was
7 going on there, but again you can't use that to
8 justify the current criteria in NFPA 1124 because
9 they're only testing up to like about five foot
10 storage or three tiers of storage. And what NFPA
11 1124 says right now you can go up to 12-foot high
12 storage with that ordinary hazard group 2 sprinkler
13 system, and that's a specific concern to us. So we
14 think there needs to be a lot more work done and we'd
15 rather not see specifically discharge and design
16 criteria in an NFPA code or standard until we're sure
17 that it's absolutely going to work.

18 CHAIRMAN PAULEY: Thank you. Further
19 testimony? At the floor mike please.

20 WILLIAM WEIMER: Thank you, Mr. Chairman.
21 My name is William Weimer. I'm vice president of BJ
22 Alan Company of Youngstown, Ohio, also a member of
23 the technical committee on pyrotechnics.

24 Our company was very much involved back in
25 1997 with the Ohio fire suppression task force

1 process that was referenced in four pages to that
2 process were devoted in the Schirmer report. The
3 Ohio task force test specified ten full scale tests.
4 Unfortunately there were issues attendant to it and
5 only two tests were conducted. And as the Schirmer
6 report pointed out, the tests were not scientifically
7 identical and only tested one type of sprinkler.

8 The tests involved an array of fireworks
9 that had no fuse covers, no flame breaks, none of
10 those protections. I just want to make a brief
11 comment about this particular test to the committee.
12 One of the recommendations in the Ohio task force
13 report, 8.0, was for additional testing, quote,
14 utilizing innovative storage and display techniques.
15 For example, fire retardant shelf backing, i.e.,
16 sheet metal, drywall, or screen rack covers that
17 would slow propagation of fire, end quote. Similar
18 to what Chapter 7 of 1124 now requires. I submit to
19 the Standards Council that the Ohio testing, as
20 incomplete as it was, was a precursor validation of
21 many of the components of 1124. Thank you.

22 CHAIRMAN PAULEY: Thank you. Any further
23 testimony before I open it up to questions from the
24 council member? Very well, I'll do that at this
25 time. Council members, do you have questions? We'll

1 proceed, Mr. Bell.

2 KERRY BELL: Kerry Bell, member of council.

3 I've got a question for Mr. Perricone. And you had
4 made a statement I believe in your presentation that
5 the primary protection objective of sprinklers in
6 Chapter 7 relates to life safety and not property
7 protection. Is that correct?

8 JONATHAN PERRICONE: Yes, with the exception
9 perhaps of --

10 CHAIRMAN PAULEY: If I could, if you can
11 please go to the floor mike so that we can make sure
12 that we capture this for the record. I apologize to
13 those of you that council members will ask questions.
14 I do need you to go to the floor mike. It is
15 important that we be able to capture all of this for
16 the record please.

17 JONATHAN PERRICONE: Yes, for many
18 facilities, particularly temporary facilities,
19 structural fire protection is de-emphasized in that
20 the goal is really to provide sufficient time for
21 egress and to not worry so much about property
22 protection per se.

23 Now, when we have situations where we have a
24 permanent facility, perhaps part of a strip mall, for
25 instance, the case may be a little bit different and

1 structural fire protection concerns would come into
2 play in such a case.

3 KERRY BELL: So the requirements in Chapter
4 7, do you think they clearly delineate whether or not
5 the protection objective was life safety or property
6 protection or both?

7 JONATHAN PERRICONE: Well, I believe
8 certainly the intent I believe is to focus on life
9 safety primarily in temporary occupancies. But the
10 permanent occupancies I believe both come into play,
11 so I'm not sure that that is very clearly spelled out
12 in the standard, but that's my understanding.

13 KERRY BELL: Okay. Thank you. Another
14 question related to sprinkler protection. In the
15 annex to Chapter 7, I think it's annex item A.7.5.1.1
16 there's a statement in there indicating that results
17 of recent full scale fire tests that automatic
18 sprinkler systems designed for ordinary hazard group
19 2 might be suitable for protecting retail displays of
20 consumer fireworks where the ceiling height does not
21 exceed ten feet and might also be adequate for
22 ceiling heights up to 16 feet. Do you know the basis
23 for that statement?

24 JONATHAN PERRICONE: I do not know the
25 basis. I was not able to find data related to that

1 statement.

2 KERRY BELL: But in your literature review
3 you didn't find any test data.

4 JONATHAN PERRICONE: I did not in my review.

5 KERRY BELL: Thank you.

6 CHAIRMAN PAULEY: Thank you. Moving on.

7 ROLAND HUGGINS: Also for Mr. Perricone.

8 Roland Huggins, council member. It's been answered
9 about the Ohio fire test or the Bechtel fire test
10 that it did not really have any features that 1124
11 requires. Do you know if any of those features were
12 within the testing setup for the Washington test
13 other than it's been identified as some product might
14 have been in there but the other aspects such as, you
15 know, shelves.

16 JONATHAN PERRICONE: I do not believe so,
17 no. I do not believe they were.

18 CHAIRMAN PAULEY: Mr. Gerdes, please.

19 RALPH GERDES: Ralph Gerdes, council member.
20 Jonathan, in your report, I don't know if you're
21 aware of this, I think there was like six U.S.
22 incidents that were mentioned, two of them had
23 sprinkler systems where the systems were disabled?

24 JONATHAN PERRICONE: Yes.

25 RALPH GERDES: Is that something that the

1 owners, the tenant actually disabled or do we know
2 any details on that.

3 JONATHAN PERRICONE: We know particularly in
4 the case of the Scottown fire, which is the most
5 notable on record, there was an inspection of the
6 facility conducted I believe only a few weeks prior
7 to the incident, and no safety violations were noted.
8 So I guess it's a matter of speculation as to how the
9 system was disabled after that inspection. It's a
10 matter of speculation.

11 CHAIRMAN PAULEY: Ralph, continue on.

12 RALPH GERDES: I have a series of questions
13 but they're not necessarily directed to Jonathan.

14 CHAIRMAN PAULEY: Let me circle back around
15 then to Dr. Clary, if would you please.

16 SHANE CLARY: Yes, Shane Clary, member of
17 council. Can you address the concerns of
18 Mr. Thornberry regarding the use of the cone
19 calorimeter on item number three?

20 JONATHAN PERRICONE: Yes, the idea behind
21 the recommendations of the cone calorimeter was
22 really to look at packaging materials. If we were to
23 look at trying to design our packaging materials it
24 an optimal way, the cone calorimeter data could
25 actually be used to investigate ignition and

1 extinction properties, particularly as they relate to
2 critical B numbers, which I believe is the basis for
3 required design densities, it could be a basis for
4 required design densities for sprinkler systems.

5 Now, this might not be the most
6 straightforward approach. I certainly agree full
7 scale fire testing would be a more straightforward
8 approach, but this is the idea that I was after in
9 those recommendations.

10 CHAIRMAN PAULEY: Thank you. Ralph, I'll go
11 on to you then we'll come back to Roland. Ralph, did
12 you have another question for Jonathan while he was
13 there?

14 RALPH GERDES: No more for Jonathan.

15 CHAIRMAN PAULEY: Let me, if I could,
16 interject a question for Mr. Perricone while you're
17 at the microphone. Can you respond to the points
18 that were raised regarding the conclusions in the
19 report versus the conclusions in your presentation
20 and some perception that those are somehow divergent?

21 JONATHAN PERRICONE: Frankly I thought that
22 what I was trying to communicate with the
23 recommendations in the report I tried to convince
24 there were two main conclusions that I included in
25 the presentation. Whether or not that got across the

1 readership of the report, apparently it didn't, but
2 the recommendations that I included in the
3 presentation as well are kind of what I walk away
4 from the report thinking. That's my take on the work
5 ultimately. And I believe that was consistent with
6 the spirit of the recommendations that were made in
7 the report as well.

8 CHAIRMAN PAULEY: Thank you. Mr. Jardin.

9 JOSEPH JARDIN: Joe Jardin, member of
10 council. And this is a question for the gentleman
11 from Southwest Research. Maybe you can help me
12 understand. I think you, in your discussion
13 overviewed two tests, one mentioned no mitigation,
14 presumably including packaging, fuse covers and flame
15 break, or, excuse me, not including those forms of
16 mitigation, packaging, fuse covers and flame breaks,
17 and then another test referring to all mitigation,
18 including sprinkler protection and presumably the
19 fuse covers, flame breaks and packaging forms of
20 mitigation.

21 I'm curious of a couple things. One is what
22 testing was done in between those two sort of end of
23 the spectrum; and secondly, you mentioned that for
24 the sprinkler design you used point two gallons per
25 minute per square foot as a design density. I'm just

1 curious where that came from.

2 BARRY BADDERS: Okay.

3 CHAIRMAN PAULEY: Again if you'll just state
4 your name when you get ready to speak it will help
5 our stenotypist.

6 BARRY BADDERS: Barry Badders, Southwest
7 Research Institute. I put the test matrix up there
8 which identified the tests that we did and what
9 mitigation techniques were implemented for which
10 tests and the number that we did. It was sort of a
11 layering effect. We started off with the worst case
12 and then added a few mitigation techniques, all the
13 way up to and including sprinklers.

14 I didn't have time to report those results
15 so I kind of went to two extremes. But the results
16 were intuitive. You know, each mitigation that we
17 added, you know, slowed the fire growth, delayed it.
18 The only time that we saw unburned devices was when
19 sprinklers. The fire eventually consumed everything,
20 just at a slower rate. And then what was the second
21 question?

22 JOSEPH JARDIN: The second question had to
23 do with your selection of that sprinkler design
24 density. Did you use to choose that point two
25 gallons per minute square foot design density?

1 BARRY BADDERS: The client chose that and we
2 set it up for that. Rick Thornberry could probably
3 answer that question more than I can.

4 CHAIRMAN PAULEY: Very good. Mr. Jardin,
5 would you like Mr. Thornberry to respond to that, if
6 appropriate on where that came from to get your
7 response on the point two gallons?

8 RICK THORNBERRY: Yes, Rick Thornberry,
9 again The Code Consortium representing APA. It came
10 from a couple places. One, there was some other full
11 scale testing that had been done, testing that had
12 been alluded to before. And then also if you look at
13 the design curves, 0.20 was one of those curves,
14 ordinary hazard group 2 and group 1. So it's just a
15 matter of what design area you pick as to whether or
16 not you're on the hazard curve or the ordinary hazard
17 curve.

18 CHAIRMAN PAULEY: Mr. Gerdes, then I'll
19 begin with you after that.

20 RALPH GERDES: Ralph Gerdes, council member.
21 I'm not sure if this is a question for you or maybe
22 industry or for committee members, but if the
23 committee wanted to put forth three test standards,
24 fire tests standards concerning fuse covers and flame
25 barriers and things like that, and in 2005 if council

1 directed a committee to establish some performance
2 criteria and the technical basis of that performance
3 criteria for these testing, and I get the feeling
4 that your testing was really just trying to justify
5 what the standard says already. Is that a fair
6 statement?

7 BARRY BADDERS: Yeah, I'm not sure I'm the
8 appropriate person to answer that question.

9 RALPH GERDES: Is there anybody else who
10 could answer that?

11 JOHN CONKLING: I'll do my best. John
12 Conkling, retired pyrotechnics association. We, the
13 task group that the Standards Council set up,
14 prepared a draft, a proposed test standard for
15 covered fuse, proposed test standard for packaging,
16 and a proposed test standard for flame breaks.

17 The flame breaks used in the Southwest
18 testing met our criteria for flame break. The
19 package that we used in the testing itself at
20 Southwest met our proposed test method for packaging.
21 The fuse covers that we used in the test met our
22 proposed criteria in the test method for fuse covers.

23 When we were at Southwest, we had asked
24 Southwest to take our fuse cover standard and perform
25 it on the fuse covers that we used in the testing

1 itself at Southwest to show that all the product fuse
2 covers used on the product in the test at Southwest
3 met our proposed criteria and the test method that is
4 at some point hopefully coming forward as another
5 NFPA document.

6 So I don't know if that answers your
7 question, but we have these test methods ready to go.
8 We were hoping to have Southwest serve as the third
9 party that you had requested us to have look at this
10 and comment on the test method that the task group
11 put together, which is reason we asked them to
12 perform the testing on the fuse covers and see if the
13 test method was easy follow in that if the results of
14 the fuse cover meeting our test criteria translated
15 into a slowing of fire growth.

16 And as Barry mentioned, the layering of the
17 testing, our goal when the task group, our number one
18 goal was to give anyone in the area where consumer
19 fireworks are being sold time to exit the facility
20 safely then have the sprinklers come on for
21 suppression and property preservation and to the
22 extent life safety might still effect life safety.

23 But out number one goal was with fuse covers
24 and the packaging was very slow growth of the first
25 couple minutes in a fire so anyone in that area would

1 be able to get to the exits as required by 1124,
2 travel distance and number of exists and location of
3 exits.

4 So that was our hope with the test. And the
5 fuse cover definitely buys you a lot of time. The
6 packaging buys you time. The flame breaks buy time
7 and the propagation of fire, combine all of them and
8 you get a slow development. Eventually it will go to
9 a fire because 75 percent is cardboard and paper and
10 then sprinklers come on and contain the fire. That
11 was our logic in the test matrix that was done.

12 CHAIRMAN PAULEY: Thank you. I have
13 Mr. Bell then Mr. Willse.

14 KERRY BELL: Kerry Bell, member of council.
15 This is a question of Mr. Badders. The flame breaks
16 that I believe that you indicated during the
17 presentation was sheet metal; is that correct?

18 BARRY BADDERS: Barry Badders, Southwest
19 Research Institute.

20 KERRY BELL: Is that correct.

21 BARRY BADDERS: That's correct. Sheet
22 metal, 18 gauge.

23 KERRY BELL: The annex of NFPA 1124 also
24 indicates that 7/1000 inch thick sheet aluminum, 1/8
25 of inch thick wood paneling can be used as flame

1 breaks. Was there any testing done with those
2 materials?

3 BARRY BADDERS: No. It was all limited to
4 18 gauge sheet metal.

5 KERRY BELL: Just on sheet metal, okay. I
6 think Mr. Isman made a comment relative to the fact
7 that he didn't think that maybe the testing was done
8 to the limits that permitted in NFPA 1124 storage
9 heights. Can you comment on that and as well as
10 maybe testing limits as referenced in NFPA 1124
11 relative to the frequency of flame breaks?

12 It looks like you tested at 16-foot, but I
13 think NFPA 1124 only references that you need flame
14 breaks at 16-foot intervals.

15 BARRY BADDERS: Yeah, I mean, I can comment
16 on part of that, but probably somebody associated
17 with the client can comment on the other part. The
18 testing was with retail displays, so we were using
19 six-foot high gondolas representative of what you
20 would find at a retail display. As far as the other
21 questions, I'd probably redirect that.

22 KERRY BELL: I guess is there anyone in the
23 room that could comment on the parameters that were
24 selected for this testing and how they relate to the
25 current requirement of NFPA 1124?

1 JOHN CONKLING: John Conkling, American
2 Pyrotechnics Association. The 1124 chapter limits
3 the height of a retail display to 16. There is a
4 provision that along the wall you may store up to
5 12 feet along a wall, but the majority of the area of
6 the retail facility be limited to a six-foot limit
7 since that's where the majority of fireworks would be
8 in a retail sales facility. We got the tests at the
9 six-foot limit. So the 12 foot is only in a very
10 limited area in a retail facility.

11 KERRY BELL: How about the frequency of the
12 flame breaks within the array?

13 JOHN CONKLING: Our primary concern was to
14 see the effectiveness of the flame break, so we
15 installed one flame break to see how it would impede
16 the growth of the fire, and it did. So do we wish we
17 had the money that went in to pay for the research
18 report to do more testing, which I think would reveal
19 a lot more about the product and the literature, so
20 they perhaps revealed, but we're planning to do more
21 testing. I mean, the committee on pyrotechnics
22 industry is fully committed to do more testing. So
23 we're looking for input as to, you know, what
24 additional testing would be valid.

25 We were extremely pleased, particularly

1 since the literature report questioned the
2 effectiveness of metal flame breaks. That was one of
3 the primary things we were interested in looking at
4 because it's a very easy design for a retailer to
5 use, and the metal flame breaks seem to work very
6 well.

7 KERRY BELL: You're focusing in on steel
8 frame breaks and not so much the wood flame breaks
9 that's references in the --

10 JOHN CONKLING: We have also done testing
11 that, I'm not sure if it went to the technical
12 committee, but certainly as get to the proposed test
13 standard it will, we've tested other materials,
14 drywall, plywood. We've tested an assortment of
15 materials in accordance with the proposed flame break
16 method, and we have criteria for what should be an
17 acceptable flame break.

18 The reason we used the metal in this testing
19 was particularly the flame backache challenged in the
20 literature study for its potential effectiveness.

21 KERRY BELL: Is there going to be large
22 scale testing with some other flame break material, I
23 mean similar to what you did with steel here?

24 JOHN CONKLING: Very possibly. We want to
25 do the testing that will yield the maximum

1 information for public safety for the dollars
2 expended. I mean, there is obviously a cost of
3 testing. We want to try to identify that testing
4 that will give us some valuable information as we
5 proceed to perfect 1124.

6 KERRY BELL: Thank you. I've got a couple
7 more questions for Mr. Badders. Kerry Bell, member
8 of council again. I wasn't clear, how many
9 sprinklers were involved in this test and how many
10 operated during test number six?

11 BARRY BADDERS: Barry Badders, Southwest
12 Research Institute. I believe there was a total of
13 32 heads within the facility. There were four
14 located immediately over the gondolas, and all four
15 of those activated in test number six.

16 KERRY BELL: So four of the 32 operated
17 during the test?

18 BARRY BADDERS: Correct. And those are the
19 ones that were immediately over the gondolas.

20 KERRY BELL: In then I believe the pictures
21 show that the fire traveled horizontally to the end
22 of the array, 16-foot array; is that correct? And
23 that if there were more gondolas, that that array was
24 longer than 16 feet is it your opinion that the fire
25 would have traveled farther down the array?

1 BARRY BADDERS: That is correct. But I
2 would certainly hope that get some flame breaks in
3 there as well as some spacing that you wouldn't have
4 a gondola for egress reasons that much longer.

5 KERRY BELL: Thank you.

6 CHAIRMAN PAULEY: Very good. Mr. Willse
7 please.

8 PETER WILLSE: Pete Willse, member of
9 council. To you, Barry. In your presentation you
10 stated that you did both the gondola type test and
11 also the palletized, but in your presentation you
12 emphasize the gondola. Could you give us a brief
13 overview of what happened with the palletized?

14 BARRY BADDERS: Yeah, we did three tests.
15 There were two pallets used for each test. They are
16 displays where you pull the cover off and it's
17 merchandise ready to be sold. They were all safe and
18 sane fountain type devices. There were no aerals.

19 Within the three tests there was one had
20 fuse covers only, one that had no fuse covers but
21 sprinklers, and if memory serves me right we had one
22 that had fuse covers and sprinklers.

23 The one with no fuse covers, the fire was
24 very slow growing. The one with sprinklers the fire
25 was extinguished before the large part of the product

1 was consumed. And then the one with no mitigation
2 techniques was somewhat slow growing because of the
3 packing but obviously it was the worst of the three.

4 PETER WILLSE: Okay. Pete Willse again.
5 The question I want to ask you, just to clarify, you
6 had just two pallets? There weren't any target
7 arrays or anything like that?

8 BARRY BADDERS: One pallet was a target
9 pallet and one was an ignition pallet. And we had
10 reginometers measuring heat flux and temperatures.

11 PETER WILLSE: What was the ignition for
12 those? What was the ignition source?

13 BARRY BADDERS: It was a fountain within one
14 of the packages. They were all like family type
15 packages. I don't know how you describe them in the
16 industry. We cut one open, exposed the fuse and lit
17 it.

18 PETER WILLSE: You lit the fuse versus any
19 sort of ignition, like before your presentation you
20 had a wastebasket with balled up newspaper in there?

21 BARRY BADDERS: Lighting the fuse was
22 adequate to get the fire going.

23 PETER WILLSE: Second question is you stated
24 in your presentation that when you were doing the CO
25 you took measurements. Do you have any sort of smoke

1 abatement or anything else going on at that time?

2 BARRY BADDERS: Yes. Well, our whole
3 building is set up with a control system. The top of
4 the building is a hood where it pulls air out of the
5 building, comes through a filter system before it's
6 discharged into the atmosphere.

7 The ceiling is solid. It allows for a
8 ceiling jet to develop and we took the CO
9 measurements at a point, I believe it's two feet
10 below the ceiling, I'd have to go back and verify
11 that. But the exhaust through the building is such
12 low velocity that it doesn't influence the fire by
13 the ceiling jet, it allows that it happen in a large
14 space.

15 PETER WILLSE: Okay. Thank you. And final
16 question is when were these tests conducted?

17 BARRY BADDERS: They were conducted over a
18 period starting in October of '07 and I believe
19 concluding in December.

20 PETER WILLSE: So within the past six
21 months?

22 BARRY BADDERS: Yes.

23 PETER WILLSE: Six months to a year?

24 BARRY BADDERS: Yes.

25 PETER WILLSE: Okay. Thank you.

1 CHAIRMAN PAULEY: Thank you. Mr. Huggins
2 please.

3 ROLAND HUGGINS: Roland Huggins, council.
4 Question for Barry as well. Have the reports been
5 submitted to NFPA on this full scale test?

6 BARRY BADDERS: I have submitted a draft
7 report to the AFSL. The report hasn't been put in
8 its final form so they would have to comment on where
9 it's gone from there.

10 ROLAND HUGGINS: But it is an intent for it
11 to be sent relatively soon?

12 BARRY BADDERS: I'm ready to take the draft
13 to final form. The intent was to get through this
14 process today, make sure that incorporated
15 everybody's concerns.

16 ROLAND HUGGINS: Roland Huggins again. Very
17 quick clarification in one of your summary sheets
18 said no visibility or sparse. I assume you meant no
19 visible flames or did you mean zero visibility?

20 BARRY BADDERS: What I meant was visibility
21 within the building. When the sprinklers come on,
22 there were two things that affected the visibility.
23 One was the cool smoke produced by the devices that
24 would not rise and escape the building, so there was
25 a large smoke layer, but it was cool smoke, and then

1 once the sprinklers came on it only compounds that
2 with the steam for the cooling of the smoke.

3 You could see through the smoke. You could
4 see the sparks from the flashes occurring from the
5 shelves, but the visibility was very poor.

6 ROLAND HUGGINS: Final and last question
7 would be you had flame breaks in your rack, which is
8 only 16 foot long, and you operated four sprinklers.
9 Do you have any other testing that would indicate if
10 you had the flame break ever 16 feet as allowed how
11 many heads would activate?

12 BARRY BADDERS: No.

13 ROLAND HUGGINS: Thank you.

14 CHAIRMAN PAULEY: Thank you. Ms. Brodoff.

15 MAUREEN BRODOFF: Thank you. Maureen
16 Brodoff, legal counsel to the Standards Council. I
17 just have some questions for you, Mr. Badders, just
18 to clarify the record. Who is your client? Who
19 funded the research?

20 BARRY BADDERS: American Fireworks Standards
21 Laboratory.

22 MAUREEN BRODOFF: And in terms of your role,
23 was the test protocol or parameters, I think I
24 gather, but correct me if I'm wrong, were those given
25 to you by your client.

1 BARRY BADDERS: That is correct.

2 MAUREEN BRODOFF: So you didn't make
3 recommendations or determine which were appropriate
4 testing conducted in light of validating, for
5 example, provision 1124?

6 BARRY BADDERS: Yes, there was some
7 discussion where we had input, but it was more along
8 the lines of feasibility and what we could do. We
9 did provide some, you know, you should do this to
10 give them better results. But for a large part the
11 testing matrix was presented to us and provided to
12 us.

13 MAUREEN BRODOFF: And in the report that you
14 will, eventually will be released, are you providing
15 conclusions and recommendations or just test results?

16 BARRY BADDERS: I am providing conclusions,
17 I'm not making recommendations. My job, I was hired
18 to run the tests for the third party lab and report
19 the results, and then of course under those results
20 come to some conclusions.

21 MAUREEN BRODOFF: I'm sorry, I can't hear
22 you.

23 BARRY BADDERS: Out of that, out of that
24 report from the results will be conclusions, but my
25 job was not to make recommendations or provide any

1 other support in that area.

2 MAUREEN BRODOFF: Are you inhibited by the
3 terms of your agreement with your client from
4 reporting all test results?

5 BARRY BADDERS: No. All tests, all the
6 results for everything that we did is in our final
7 report. It was written with enough detail to say
8 what we did, how we did it, allow somebody else to
9 take that report and reproduce what we did.

10 MAUREEN BRODOFF: And do you have any
11 knowledge as to why this draft report has not been
12 released in draft form so it can be reviewed by the
13 Council in the context of this hearing?

14 BARRY BADDERS: As I understand it it was to
15 see what questions, comments, concerns might have
16 come up that we might need to provide more detail in
17 the report or provide more information.

18 MAUREEN BRODOFF: When was your draft report
19 completed?

20 BARRY BADDERS: I believe in January.

21 MAUREEN BRODOFF: January of 2008?

22 BARRY BADDERS: Yeah. There's been a couple
23 iterations with minor revisions but the bulk of it
24 was completed in January.

25 MAUREEN BRODOFF: Thank you.

1 CHAIRMAN PAULEY: Mr. Milke please.

2 JAMES MILKE: James Milke, member of council
3 for Barry again. Question on your measurements, I'm
4 not nitpicking here, I don't think that it would be a
5 major implication on the hazards levels that are
6 associated with conditions after the sprinkler
7 operation. Measurements, temperature measurements
8 and CO measurements aren't trivial after sprinkler
9 operation, and what did you do to try to get
10 realistic temperatures, for example, if there were
11 water droplets on the thermocouple that would affect
12 temperature rise or dealing with the CO standpoint a
13 very wet environment?

14 BARRY BADDERS: As far as the temperature
15 measurements, you're right, it's not trivial and
16 there's not much we can do. You know, it is what it
17 is. We do have thermocouples within the shelves that
18 were shielded from the sprinklers.

19 The CO measurements that can be analyzed
20 that we used, we have to dry the air before we're
21 taking the measurements. So the moisture is removed
22 from the air but that doesn't affect the CO or the
23 oxygen of the CO2 measurements.

24 CHAIRMAN PAULEY: Mr. Bell please.

25 KERRY BELL: Kerry Bell, member of council.

1 This is just a follow-up question I had with Jonathan
2 earlier relative to the origin of the annex material
3 related to indicating of preliminary result of
4 reasonable fire testing indicated ordinary hazard
5 group 2 can be used for retail displays of consumer
6 fireworks for ceiling heights, for storage heights up
7 to ten feet and might call up to fifteen feet. Can
8 somebody answer that question?

9 JOHN CONKLING: John Conkling, American
10 Pyrotechnics Association. The industry has done a
11 series of tests prior to the Southwest Research test
12 several years ago when we first got underway with the
13 retail sales chapter. In those tests we did
14 sprinkler testing with a ten foot sprinkler height
15 and with a sixteen foot sprinkler height. Those
16 fireworks in those tests did not have any of the
17 mitigation techniques in place, it was to observe
18 what the raw consumer fireworks would do in a
19 fireworks situation. So that information in the
20 annex was based on that initial testing prior to the
21 Southwest testing.

22 And to answer a question from council
23 regarding the testing at Southwest, American
24 Fireworks Standards Lab funded the testing. The test
25 protocol, the test sequence was developed by the task

1 group that was established by the Standards Council
2 to look into these questions, and that protocol was
3 then provided to Southwest.

4 We did, as Barry mentioned, have discussions
5 with them with input from their organization on the
6 testing equipment, thermocouples, the infrared video,
7 the visual video, all of the test methodology was
8 developed in discussion with Southwest Research, but
9 the actual sequence of testing was from the task
10 group that was created to look into 1124.

11 KERRY Bell: Do you know when that testing
12 was conducted and if there's a report of the testing
13 that you did?

14 JOHN CONKLING: I would say four to five
15 years ago there were test reports done, but the
16 result of the tests drove the covered fuse
17 requirement, the packaging requirement would be sold
18 based on that testing that we needed mitigation
19 methodology. So, I mean, there was the only thing
20 that came out of that testing that might have some
21 potential interest would be the sprinkler tests, but
22 that was the testing that showed us we had to do more
23 to retard the growth of fire to allow people to exit
24 the area where the fire was.

25 KERRY Bell: Can a copy of that report be

1 provided to the Council?

2 JOHN CONKLING: If I can find it. I guess
3 we have it somewhere around. The results were such
4 that we said we need to do further standards
5 development. I mean, certainly interim testing. It
6 would be uncontrollable fireworks tests. I'll see if
7 we can locate it.

8 CHAIRMAN PAULEY: Thank you. Did you have a
9 further comment on this particular topic?

10 JOHN ROGERS: On the issue of the report
11 from Southwest Research Institute --

12 CHAIRMAN PAULEY: Please state your name.

13 JOHN ROGERS: My name is John Rogers. I am
14 the executive director of American Fireworks
15 Standards Laboratory. And as Dr. Conkling explained,
16 AFSL funded the testing for this project. The test
17 criteria were developed by the task force, supported
18 by the Standards Council.

19 The initial draft report came to us from
20 Southwest Research in January of this year. In
21 February Dr. Conkling and I actually went down and
22 met with Barry again to talk about the materials that
23 were used for packaging and fuse covers, and some
24 small amount of additional testing was done.

25 The final report for this work has not been

1 submitted to AFSL. It's not been reviewed by the
2 task force. It has not been reviewed by the AFSL
3 board of directors. Our expectation is that once the
4 task force looks at this data and the AFSL board of
5 directors reviews this report and approves its
6 dissemination, we'll be very happy to make that
7 report available to the task force, to the full
8 council and to anyone else that has an interest in
9 seeing the results of that work.

10 Our board meets in September this year, and
11 I suspect that the board will provide approval for
12 distribution of that report. Thank you.

13 CHAIRMAN PAULEY: Thank you.

14 Jim Pauley, chairman of the council. I just
15 want to clarify for the record, this particular topic
16 that was being discussed about a council established
17 task group over this, I just want to make it clear
18 for the record the council did not establish or
19 appoint members to a task group. The TC pyrotechnics
20 has expanded scope to be able to look at that
21 particular issue associated with these three
22 standards that were in question. And the fire
23 testing committee, as I recall, was also involved in
24 that to some degree, but I just want to clarify for
25 the record this was not a task group that was

1 appointed and established by the council, it was
2 within the project so that that was clear to
3 everyone. I think, Dr. Clary, did you have a
4 question?

5 SHANE CLARY: Shane Clary, member of
6 council. I think my question was answered by the
7 last gentleman at the mike, but just for
8 clarification, is it my understanding then the report
9 will not be issued until at least September?

10 JOHN ROGERS: John Rogers again, executive
11 director of AFSL. That was our original plan was to
12 have the report reviewed by our board, which meets
13 mid September. If there is a compelling need on
14 behalf of the Council to have that report available
15 sooner, then we certainly can go to the board in a
16 telephone conference and have it cleared by them and
17 then provide the information to the Council as
18 quickly as we can make that happen.

19 There is no real intent on our part to keep
20 any part of the report secret. It's a very
21 worthwhile piece of work that deserves to be reviewed
22 by everyone who has an interest in this issue of
23 product safety and retail safety. And so if that's
24 the wish of this Council, then we certainly can go to
25 our board and ask to have clearance of that report.

1 CHAIRMAN PAULEY: Thank you.

2 JOHN CONKLING: John Conkling, American
3 Pyrotechnics. Just to add one thing, our attention
4 on the project has been sidetracked by today's
5 hearing. I mean, we have been focusing our efforts
6 on preparing a presentation this morning so the
7 Council will keep Chapter 7. We haven't been looking
8 beyond today to see whether that document survives
9 and then how we proceed should Chapter 7 disappear.

10 So part of the reason we're behind with it,
11 with some of this documentation is the fact that you
12 have gotten our attention for today's hearing and
13 that's what we've been focused on where perhaps we
14 could have been focusing on getting that report
15 ready.

16 CHAIRMAN PAULEY: Thank you.

17 Mr. Thornberry.

18 RICK THORNBERRY: Mr. Chair, I'm Rick
19 Thornberry again with The Code Consortium
20 representing the APA. To kind of follow up on
21 Dr. Clary's question, I think there is a scheduling
22 issue here, and right now 1124 is in cycle for annual
23 2010, which he blessed. I think the closing date is
24 sometime in late November.

25 Coupled with that are the three test methods

1 that we've been talking about, which information from
2 the Southwest Research Institute tests will have a
3 major impact on and which the Standards Council asked
4 for in a third party report. We submitted that
5 before we were allowed to go forward into the cycle,
6 we're hoping parallel to the cycle for the annual
7 2010 which possibly could be accomplished at the July
8 meeting if you have the report. That would be my
9 understanding.

10 And I'm speaking as a member of the task
11 force. That was a joint task force between the
12 pyrotechnics committee and the fire test technical
13 committee which you did bless that part, allowing
14 that to occur. And because of that we, if you
15 proceed and you decide to keep Chapter 7 and if you
16 decide not to change the scope of the technical
17 committee, then it would seem to me that we would
18 want to get that report to you so you can have it for
19 your July meeting so then it can all go forward as a
20 package because these are important elements to make
21 1124, Chapter 7, much more enforceable and much
22 better technically based.

23 CHAIRMAN PAULEY: Thank you. I know we have
24 well went into topic two, which is I fine, because we
25 have been talking about a number of provisions that

1 are in Chapter 7 of 1124. I did have just a couple
2 of questions that were related to that just for my
3 information.

4 Mr. Badders, on the testing that you did
5 with the arrangements on the racks and so forth, what
6 was the total weight of the fireworks that were
7 involved?

8 BARRY BADDERS: Barry Badders, Southwest
9 Research Institute. 2,000 pounds.

10 CHAIRMAN PAULEY: Is there anywhere in
11 your --

12 BARRY BADDERS: Per test.

13 CHAIRMAN PAULEY: Per test.

14 BARRY BADDERS: Yes.

15 CHAIRMAN PAULEY: Is there anywhere in the
16 test layout that you've been asked to perform of
17 testing at those threshold limits where the sprinkler
18 protection does not come into play and so forth in
19 the standard to try to understand that weight and
20 arrangement of those that could be associated without
21 sprinkler protection?

22 BARRY BADDERS: No. As I understand it the
23 test matrix was set up to replicate a specific
24 scenario. We played around with that scenario and
25 the mitigation techniques did not the address the

1 fuel mode in trying to challenge the sprinklers.

2 CHAIRMAN PAULEY: Okay. Thank you. And
3 also I have a question perhaps maybe for some of the
4 folks that are the sprinkler experts, just since I'm
5 not. The point two gallons that were being
6 discussed, would that be typical of a system that
7 would already be in existence in a retail facility
8 that was constructed or is that an unreasonable
9 criteria or is there something else that needs to be
10 done? I'm just trying to relate the criteria that
11 was used in the testing to what may be in existence
12 in these facilities today.

13 KEN ISMAN: Ken Isman with the National Fire
14 Sprinkler Association. Yes, a point two gallons per
15 minute per square foot density is pretty typical for
16 a retail sales grocery store kind of occupancy, if
17 you assume that the maximum number of sprinklers that
18 are going to are around five to seven.

19 Now, if you assume that more sprinklers
20 might open, then you're absolutely not going to able
21 to get that kind of density from an ordinary hazard
22 type retail sales type grocery store type sprinkler
23 system.

24 So one of the key components is how many
25 sprinklers do you think are going to open if there's

1 a fire. And earlier somebody said that they chose
2 the point two density because it was on both the
3 ordinary hazard curve in NFPA 13 and the extra hazard
4 curve. But the huge difference between those two
5 curves is the area of sprinkler operation, the number
6 of sprinklers that are going to operate in the case
7 of a fire. And on the extra hazard curve we designed
8 for like 40 sprinklers open at a point two density I
9 think. I'm trying to recall the curve just off the
10 top of my head. But for an ordinary hazard occupancy
11 we're talking five to seven sprinklers open, so it's
12 a completely different water supply behind an extra
13 hazard sprinkler system with a point two density and
14 an ordinary hazard sprinkler system in a point two
15 density.

16 CHAIRMAN PAULEY: Thank you.

17 Mr. Thornberry, would you like to comment on my
18 question?

19 RICK THORNBERRY: Yes, if I may. Rick
20 Thornberry with The Code Consortium representing APA.
21 The number of sprinklers, with all due respect to
22 Mr. Isman, the number of sprinklers have nothing to
23 do with the density. The number of sprinklers has to
24 do with what your design area is going to be. And
25 that's where you may get extra hazard group 1 as

1 opposed to ordinary hazard group 2.

2 However, we delivered the dense at point two
3 as a minimum density across the grid. So it didn't
4 matter how many sprinklers were opened, that was the
5 density. And we know that's not what happens in the
6 real word, because we design and we can do an
7 ordinary hazard group 2 at 1500 square feet, so
8 that's, you know, at 120 square feet space, that's
9 twelve, thirteen sprinklers you're assumed may
10 operate in a design area as opposed to five to seven
11 Mr. Isman was talking about, which I'm not clear
12 where that came from.

13 But the point being is that an initial
14 operation sprinkler system only a couple of heads
15 come on. In all the tests we did, four was the max.
16 In some cases I believe there was two and some were
17 three and others were four. So you get the higher
18 density that gets discharged because you're designing
19 for all the heads to operate and only a couple
20 operate.

21 In our standard test we did not do that. It
22 was strictly the minimum density that came on in the
23 initial heads being discharged during the operation,
24 so it's very conservative.

25 CHAIRMAN PAULEY: Thank you. We are, since

1 we have went into the topic of this issue of the
2 sprinkler protection, we're really into Chapter 7 and
3 the issue of the 1124 requirement so I'm going to
4 continue to allow testimony on that topic and either
5 questions from council that lead to that or further
6 testimony on this. So please feel free to comment on
7 those topics at this point.

8 JAMES GOLINVEAUX: Good morning. My name is
9 James Golinveaux. I'm the senior vice president for
10 research and development for Tyco Fire Suppression
11 and Building Products. I'm also a member of NFPA 13
12 and I'm the task group chairman for storage. I've
13 been actively involved with many of the gondolas and
14 shelf testing that has been done in the retail
15 environment over the last couple of years.

16 The interesting part of the conversation is
17 the question you had about point two is one point on
18 the design den curve. The designer can select
19 densities as low as point 12, 15 for the same
20 occupancy.

21 We have a sliding curve den based on the
22 occupancy type. Ordinary hazard group 2 point two is
23 only one point. It happens to be the highest den
24 over the smallest area. You can slide up the curve
25 and get a much lower density at the discretion of the

1 designer.

2 The reason I get up to the microphone is
3 just to say there's a lot of issues going on with the
4 testing that the full committee NFPA 13 wants to take
5 a look at. Mr. Thornberry was kind enough to come
6 present some of the four or five year old test
7 informing to the NFPA 13 committee. We looked at
8 that and give him some recommendations on what they
9 needed to do next to get a legitimate protection
10 scheme for retail fireworks.

11 I have not seen the Southwest report and I'd
12 love to see that, especially in full committee so we
13 can make an evaluation of such things as dividers, as
14 such things as aisle jump. Will this divider help in
15 this condition or not. We're dealing with this and
16 looking for more information to come back to the full
17 committee.

18 Many of the things about automatic
19 sprinklers about fire exposure. Doesn't have to
20 necessarily be an ignition in the fireworks area, it
21 could be ignitions in the kitchenware, plastics area
22 coming into the fireworks area. So there's other
23 things that have to be considered at least the full
24 13 committee wanted to take a look from the discharge
25 side, so just to bring that to the attention of the

1 group.

2 CHAIRMAN PAULEY: Thank you. I will take
3 further testimony with regards to the current Chapter
4 7 requirements. We'll also take questions from
5 council at this point in time on that particular
6 issue as well. Mr. Bell.

7 KERRY Bell: Kerry Bell, member of council.
8 Just a follow-up question related to the report that
9 I believe John indicated that he tried to locate to
10 substantiate the annex material. I just want to get
11 an idea if you're able to located the report when
12 will that be provided to the council? I'm not quite
13 sure who handled that question.

14 CHAIRMAN PAULEY: I think Mr. Conkling was
15 involved in that. This is the four to five year old
16 data.

17 KERRY BELL: Yeah, this is really the report
18 that substantiates the annex material.

19 JOHN CONKLING: John Conkling, American
20 Pyrotechnics Association. I'll leave here today,
21 when we find out where we're going and we're on track
22 I will -- I'm heading home tomorrow morning. I will
23 search my office, see what I can find. Where do you
24 want it to go?

25 CHAIRMAN PAULEY: In the case of the report

1 you're talking about we'd ask you to send it to the
2 secretary of the Standards Council, Mr. Puchovsky.

3 JOHN CONKLING: If it can be located fairly
4 quickly. We'll give it to you. We have nothing to
5 hide. We'll get it to you.

6 KERRY BELL: Thank you.

7 CHAIRMAN PAULEY: Mr. Clary and Mr. Huggins
8 please.

9 SHANE CLARY: My name is Shane Clary, member
10 of council. And I guess to anyone on the technical
11 committee. What was the criteria for the use of
12 selecting 6,000 square feet minimum for sprinkler
13 coverage as opposed to 3,000 or zero square footage?
14 To anyone.

15 UNIDENTIFIED SPEAKER: I'm sorry we're
16 having a discuss in the back. What was the question?

17 SHANE CLARY: Sorry. Again the question was
18 what was the criteria that was used to select 6,000
19 square feet as the minimum square footage of a retail
20 store that would require them to have a sprinkler
21 system as opposed to 3,000 or zero square footage?

22 RICK THORNBERRY: Rick Thornberry, The Code
23 Consortium representing APA. I'll give you my take
24 on it. As a consultant to the APA during this entire
25 process, and the original proposal was to mimic NFPA

1 101 for mercantile occupancies which was 12,000 feet
2 for new facilities, it's 15,000 for existing.

3 When this went to the entire body for the
4 technical committee report session, there were
5 comments submitted by the fire service that wanted it
6 down as far as zero, zero threshold. Some suggested
7 6,000, and that was the compromise that was evidently
8 reached during the consensus process at the technical
9 committee report session which was subsequently
10 upheld by the technical committee.

11 And then because there was no vote to get
12 the existing building ratcheted down, the APA filed
13 an appeal to the Standards Council to request that
14 that be ratcheted down to 7500 to match the half
15 reduction that was given for new. And then the
16 Standards Council wisely approved that appeal, one
17 that we did win. That was amazing. So that's where
18 it came from, from the best of my recollection.

19 CHAIRMAN PAULEY: Further testimony?

20 JON NISJA: Thank you, Mr. Chairman, members
21 of the Council. My name is Jon Nisja. I'm currently
22 the president of the International Fire Marshals
23 Association. For purposes of this I'm going to go
24 ahead and use also known as IFMA.

25 For the record IFMA remains resolute in our

1 opposition to consumer retail fireworks sales and
2 use. We believe that these devices are inherently
3 unsafe. Having said that, however, we're also
4 practical and realistic enough to recognize that
5 there are about 44 states in this country that have
6 legalized the use of consumer fireworks.

7 So noting that fact we need to have some
8 protection criteria in place for these because they
9 are happening in predominant states in this country.

10 Contrary to popular belief or some beliefs
11 here, removing Chapter 7 from NFPA 1124 will not make
12 consumer fireworks go away. They're here. Whether
13 we like that or not, that's a legislative decision
14 that's taken place in this country.

15 Enhanced safety by removing Chapter 7.
16 Quite to the contrary. It will reduce the levels of
17 protection that are currently in the standards. In
18 essence we will go backwards. We will have less
19 protection for the public or any of these other
20 facilities.

21 By removing Chapter 7 the protection
22 criteria would revert back to the standard fire life
23 safety code requirements. Here are some examples of
24 current protection that would be reduced or
25 eliminated by getting rid of Chapter 7. There would

1 be restriction for sales in multi-tenant buildings.
2 We could have consumer fireworks sold in a day care
3 center.

4 Sprinkler protection for retail sales would
5 go to 6,000, as we just heard, to 12,000 or 15,000
6 square feet. There would be fewer portable fire
7 extinguishers. There would be no smoke control
8 system for certain facilities that are currently
9 required. There would be no restrictions on
10 fireworks use. Currently you can't shoot off outdoor
11 fireworks within 300 feet of these buildings.
12 Without Chapter 7 that goes away.

13 Decrease separation distance would be
14 permitted. We'd have fewer exits in these buildings.
15 Travel distance would increase. We currently have a
16 75-foot limit. There would be no storage height or
17 arrangement restrictions. You can pile them as high
18 as you want and as large as you wanted.

19 IFMA has a long history of involvement with
20 Chapter 7 of NFPA 1124. I won't go into that
21 history. Some of it has already been provided for
22 you. We recognize that the protection criteria may
23 not be perfect or even optimal, but it's something
24 that is in the standard and there has been no severe
25 history of failure in the five to six years it's been

1 around.

2 IFMA has about 28 chapters, 23 of them were
3 present yesterday for a meeting we had at Chapman
4 Hall. 23 of the chapters supported IFMA's belief
5 that Chapter 7 of 1124 needs to remain in for the
6 various protection criteria. Those 23 chapters
7 represent states that have legalized fireworks.

8 As indicated in the letter that IFMA sent to
9 the Standards Council, we requested the Standards
10 Council to not remove Chapter 7 of 1124 at this time,
11 that Standards Council authorizes funding for IFMA to
12 continue the task group for further study and make
13 recommendations, for protection criteria for consumer
14 fireworks.

15 If necessary the task group would develop a
16 TIA as information comes up they need protection that
17 we have that does not work or that there's something
18 else that needs to be developed we'd open to that.

19 And also that one of the problems that we've
20 seen, and again I believe the pyrotechnics industry
21 would agree with this, there's been a problem with
22 enforcers being able to fund themselves for travel
23 for purposes of code development, and we ask that six
24 enforcers be appointed to the NFPA 1124 technical
25 committee with travel expenses paid from the

1 enforcement travel fund that's currently in place.

2 Mr. Chairman, member of council, NFPA staff, thank
3 you for the opportunity to address these issues.

4 CHAIRMAN PAULEY: Thank you. Further
5 testimony?

6 JEFF COLLINS: Thank you. I'm Jeff Collins,
7 deputy fire marshal for the Palm Beach County Fire
8 Rescue. I need to tell you that for a couple
9 reasons. The first is because if you see me shaking
10 up here it's not because I'm nervous, it's freezing
11 cold in here.

12 The second reason I need to tell you that is
13 because I have to apologize to you all because as
14 many of you all know, Chief Herman Price is the chair
15 board of directors when this issue was brought up
16 before the board to determine whether or not they
17 were even going to take out bylaws, I've since
18 learned from Tom Jager, take out the bylaws that they
19 didn't even recognize retail fireworks period.

20 And he summoned me into his office and he
21 asked me, Jeff, this is what's going on at the
22 Standards Council. And I pointed out his window and
23 I said right across the street, Chief, it's going on.
24 It's right literally within 200 yards of his office,
25 fire rescue headquarters, I said we need to do

1 something about it, get it regulated.

2 So early on in those discussions, as I was
3 talking with some key folks in the fireworks
4 community, I said, You really have to get your hands
5 around testing. The testing is going to be
6 fundamental to push this through the possess. And
7 some of the early testing I was able to kind of hear
8 about but I never saw reports, and I think that's
9 some of the frustration you all probably feel also is
10 that we know that there are tests out there, now
11 let's see it. Let's find out what this, you know,
12 beast is.

13 And since we've had some pretty significant
14 testing from Southwest Research, and I actually
15 replaced Bob James as the task group liaison for NFPA
16 1, and when Bob James took subsequent employment,
17 they put me on that testing task group, and I
18 literally at the first meeting was hearing them talk
19 about well, we're going to do this worst case
20 scenario testing and then we're going to slowly, you
21 know, do tests and ultimately come up with something
22 that's compliant with NFPA 1124 as it's currently
23 written.

24 And so the first test you saw up there was
25 supposed to be that type of scenario. And I had two

1 problems with that. I was late in the process to
2 change it because it was going to be very difficult
3 for them to actually do the logistics to get the
4 amount of fireworks there. I said, your problem with
5 that test is, you know, in the fire protection
6 community the corner test is the hardest test to
7 pass. I said, in addition to that in the corner of
8 one of these retail facilities you can go to twelve
9 feet of storage. All your tests are six feet on
10 gondolas with four foot aisle separation.

11 So we knew going into it we couldn't change
12 that. It was going to get in the way of actually
13 dates and performance measures that we needed to meet
14 to get some of this language codified. And so I
15 agreed, you know, the we shouldn't regroup and do
16 that. But also as I was out there witnessing the
17 first test, which was the worst case scenario test,
18 and this is, you know, some just brief comments that
19 I've heard out there at that first test, you know,
20 from a gentleman that worked there 27 years, he said,
21 That's the best -- second best fire I've seen in 27
22 years was at the Southwest Research Institute.

23 The second -- okay, in my business the best
24 fire, what the people in here think the best fire is,
25 I mean the biggest, baddest and everything else. And

1 so we knew that we had problems in an uncontrolled
2 area. And as you saw in that last test, and it was
3 just a brief chart, I saw that there was a lot better
4 performance as an engineer I could kind of see the
5 chart was a lot better, but it doesn't really take
6 into account that that was a sprinklered building.
7 And again I think you've heard earlier 6,000 square
8 feet for new, 7500 for existing is unprotected.

9 Well, one of the questions I would ask is how many
10 percent of the buildings out there are 7500 square
11 foot or less. That's interesting to know. I mean,
12 how much of this community are we going to still
13 leave exposed to unsprinklered buildings, because
14 that's kind of important, because as you're seeing,
15 sprinklering is a big difference between
16 non-sprinklered.

17 The second issue that I have, and it's more
18 fundamental, and I don't think it's been brought up
19 here, is that the testing, when we did the testing
20 and all of the intuitive results out there, I haven't
21 seen any for myself, but everything I've heard from
22 conversations is the whole issue is aerial devices.
23 That's the whole issue here. The crux of the issue
24 is the aerial devices.

25 When we're doing the, quote/unquote, safe

1 and sane, the safe and sane is kind of like, you
2 know, any other ordinary commodity in the mercantile
3 occupancy. It's no different then let's say the
4 potato chips. You know, if you've ever seen potato
5 chips burn in the potato chip aisle, it's pretty
6 substantial. But again, sprinklers protect that
7 fire, it's when you get the aerial devices.

8 And I guess when I was sitting here it's
9 just the way my mind thinks, the aerial devices, the
10 aerosol cans but it's with the matchbox associated
11 with it. So you've got the oxidizer and you have
12 this thing shoots through the air and having the
13 rapport. That's the problem. It's not the device
14 that has a rapport and sits on the shelf, it's the
15 one that shoots and projects and actually extends the
16 flame.

17 So, you know, to wrap up in terms of what we
18 need to do in terms of the code itself is I see a
19 significant need for a TIA. And we most definitely
20 have to address the aerial devices. If we can get
21 those under control, and one of quick I guess slides
22 that they talked about containment bins, ask
23 questions about the containment bins, because when we
24 first started testing the containment bins what we
25 thought was holding things in place, didn't. We had

1 to go to some pretty significant substantial
2 materials to hold these things in compliance.

3 And so the question -- the answer to our
4 problem might be inert type fireworks within the
5 retail area where they can still purchase it but then
6 they'd have to go have it pulled for them from a
7 separate area where these actual, the actual
8 occupants and customers aren't in the environment
9 that it literally becomes untenable within 90
10 seconds, which is unheard of when you're talking
11 about designing egress systems. Thank you.

12 CHAIRMAN PAULEY: Thank you. Further
13 testimony?

14 JOHN ROBISON: I'm John Robison. I
15 represent the Alabama Fire Marshals Association. I'm
16 a former president of IFMA and have served in the
17 fire service and served the communities throughout
18 this country I believe in fire service for over 44
19 years. I also am currently an alternate member of
20 1124. And I have witnessed some of the fire tests
21 that have been conducted concerning the packaging and
22 the fuse issues.

23 I appreciate the opportunity to speak to the
24 council on this issue, and my comments will not be
25 long. I've met with the fire service and regulatory

1 individuals and organizations ever since this
2 proposal from Council came up to determine what their
3 feelings were and how they felt it would affect them.

4 The fire service and the regulatory
5 officials from different organizations believe that
6 1124 and Chapter 7 are a vital part of their arsenal
7 in fire prevention, fire protection, not only for the
8 public in their communities but also for their
9 emergency service responders who are answering calls
10 to buildings where they may or may not understand or
11 know what is in those buildings when they arrive
12 there.

13 Unanimously the groups and the individuals
14 that I've spoken with believe in the continued
15 existence of Chapter 7. They support IFMA and the
16 general concept on developing a task group to work
17 with the technical committee to have at least six
18 active, and that is the key word I think, active fire
19 service people serving in that task group technical
20 committee capacity to provide funding to see that we
21 can have active fire service people there.

22 It is not that the fire service people don't
23 care, but they are, and I'm preaching to the choir in
24 many cases, they are faced with the politics of
25 chiefs, mayors and council people who do not

1 understand the importance of the technical committee
2 and the task group's work. And in this day and time
3 getting the funding to attend and participate and
4 provide their expertise is extremely limited. So
5 that funding is a key element of this whole thing.

6 We would also suggest that some of those
7 six, whoever they may be, either technical committee,
8 task group, that at least some of that come from the
9 international firefighters and some of that come from
10 the international fire chiefs perhaps, because they
11 also have or are stakeholders in this discussion and
12 issue.

13 We believe the scope should remain as is.
14 We believe that the location of this document is
15 where it should be. And I guess in conclusion we
16 believe that the additional information that is now
17 out there through the various tests and reports that
18 will be forthcoming to the council, that has been
19 promised to you. And I think that that will happen
20 without any doubt. It is important to helping all of
21 us do what is our primary job, and that is protection
22 of the public.

23 Today's world we have different
24 circumstances than we had 10, 15, 20 years ago. We
25 live in a different world. Times have changed. The

1 laws have changed. But one thing is still true today
2 that was true then, it's just perhaps it's been
3 brought more to the forefront and it's perhaps an
4 issue of today that we have a common interest, every
5 one of us, whether it be NFPA, whether it be the fire
6 service, whether it be the public as the community,
7 or whether it be the fireworks industry, it is to
8 provide the safest environment we can in the
9 conditions in which we live. Those conditions have
10 been perhaps to some extent dictated to all of us by
11 politicians. And that is the real world of today.
12 Thank you.

13 CHAIRMAN PAULEY: Thank you. Further
14 testimony please?

15 JOHN DEAN: Good morning, Mr. Chairman,
16 staff, members of the committee. My name is John
17 Dean. I'm the state fire marshal for the state of
18 Maine and the president of the National Association
19 of State Fire Marshals. And we have submitted
20 written testimony to you, so I won't go over that.
21 I'm going to be very brief because many of the other
22 people have already spoken to the issue that I would
23 have spoken to.

24 First and foremost, the National Association
25 of State Fire Marshals is wholly opposed to the

1 personal use and sale of consumer fireworks; however,
2 our membership is not ignorant of the fact that there
3 are 44 states that currently permit the use and sale
4 of some type of consumer fireworks.

5 As president of NASFM I know that many fire
6 members of multiple governments reference NFPA 1124
7 standard in their statutes, local ordinances or
8 regulations as the applicable protection standard for
9 consumer firework sales. NASFM respectfully requests
10 that Chapter 7 remain within the current standard.

11 The National Association of State Fire
12 Marshals remains committed to supporting the efforts
13 of IFMA on this issue. Further, NASFM is willing to
14 participate in any process that may be established to
15 convene fire service and industry representatives to
16 develop a tentative interim agreement addressing any
17 identified deficiencies to submit to the Standards
18 Council for approval and application until such time
19 as identified deficiencies can be addressed during
20 the next cycle of NFPA 1124. Thank you very much.

21 CHAIRMAN PAULEY: Thank you. Additional
22 testimony?

23 JERRY WINGARD: I'm Jerry Wingard. I'm with
24 the state of South Carolina administrator for
25 Pyrotechnical Safety. And due to the Council's

1 wishes I want to go on record my fire marshal asked
2 that I read a letter in response to you all earlier,
3 and due to his wishes I will do that then go on to
4 mine. He's my supervisor so I need to address that.
5 I am also on the technical advisory committee for
6 NFPA 1124 and would like to thank you for this
7 opportunity to be here before you today.

8 As stated in my letter dated February 22nd,
9 2008, South Carolina State Fire Marshal and I asked
10 that you reconsider the possible decision on revising
11 the scope of the technical committee on pyrotechnics
12 and deleting Chapter 7 in NFPA 1124. We feel that
13 Chapter 7 is the most important part of this code and
14 removing it would destroy 1124.

15 We felt at that time and now know that this
16 notice and possible decision would have an affect on
17 how our legislators look at updating and adoption of
18 national consensus standards and codes. During a
19 subcommittee meeting, my updating of 1124 was stopped
20 when it was brought to their attention that you were
21 contemplating removing the standard for retail sales
22 of consumer fireworks.

23 This also affected the updating of seven
24 other codes and the adoption of fire safe cigarettes.
25 It seems to be of concern that this uncertainty where

1 a standard is adopted and published and businesses
2 are made to comply only to have it removed in future
3 editions, that this type of action will have a safety
4 and economic impact on all businesses that sell
5 fireworks in South Carolina. And this will bring
6 legal challenges in enforcing the codes and standards
7 in the future and spread to other codes that that are
8 adopted by our state.

9 I also feel that the study that was being
10 used to open this discussion has many flaws and
11 inconsistencies. Having regulated explosives in
12 South Carolina for over 21 years, and having
13 personally destroyed and observed tons of fireworks
14 and other explosives being destroyed, I've never
15 observed consumer fireworks behave in manners that
16 you described in some parts.

17 There are also items in the table that are
18 discussed in this study that are not intended for the
19 sales and storage of consumer fireworks but other 1.4
20 explosives, like 1.4 blasting caps that are regulated
21 completely different than consumer fireworks.

22 There are also firework incidents used that
23 are dated before Consumer Product Safety Commission
24 became involved in the regulation of the consumer
25 fireworks. Before CPSC became fully involved and the

1 AFSL was created, fireworks quality was not
2 consistent and should not be used to compare with
3 today's fireworks.

4 There are also some parts of the study that
5 state that the type of fireworks are unknown and that
6 fires and explosions took place in other countries
7 where little regulations exist. So I fail to
8 understand how this data could be used in a study on
9 consumer fireworks.

10 In closing, I have lived my entire life in a
11 state that allows consumer fireworks. I have
12 regulated, as I stated, explosives for over 21 years.
13 I have always failed to see why some groups have
14 spent so much time and money opposing these little
15 amusement items, but I also feel that NFPA has mostly
16 been going in the right direction with 1124, and I
17 ask that you leave the retail sales in Chapter 7 and
18 allow the scope of the technical committee to remain
19 the same.

20 So the proposed standards to flame breaks,
21 packaging and fuse covers can move forward. I think
22 you will be surprised in the level of protection
23 provided in the fireworks sales facilities if these
24 updates and changes are allowed to proceed. I have
25 witnessed many more injuries, loss of life and

1 damages of property from display fireworks,
2 cigarettes, propane and other products than true
3 consumer fireworks and hope that we move past this
4 roadblock and take care of problems that we, as a
5 public safety officials, encounter daily. Thank you.

6 CHAIRMAN PAULEY: Thank you.

7 With the timing that we have I'm going to
8 ask, I want to make sure I have time for the
9 pyrotechnic committee chair to have an opportunity to
10 address the council. I'm also going to allow anyone
11 who hasn't spoken, you know, if you have some brief
12 comments that you would like to make, I would like to
13 take those. After we do that I want to open it up
14 with the rest of the time that we have for any
15 questions that we have from the Council on any of the
16 topics today or other information that we want to ask
17 either the presenters or other folks in the audience
18 that we have.

19 So, Mr. Lathrop, you can go now or you can
20 reserve your time after the other presenters, or if
21 there's anyone else that wants to comment, your
22 preference.

23 JIM LATHROP: Good morning, everyone. My
24 name is Jim Lathrop, vice president of Koffel
25 Associates and I'm chair of the technical committee

1 on pyrotechnics. I have absolutely have zero
2 financial interest, or to be blunt, any interest in
3 pyrotechnics whatsoever. And myself personally, I'm
4 opposed to the use of fireworks. I feel like I've
5 been thrown into the lion's den here.

6 From the other side of things, my fire
7 service side, just so you know a little bit more
8 about me, for those who don't know me, this is my
9 44th year in the fire service. I'm assistant chief
10 of a small fire department back in Connecticut. From
11 that aspect I certainly see the need for some of the
12 stuff that we're talking about.

13 I want to let you know, first of all, as
14 chair I was drafted into this position, okay. Ever
15 since Leona has been taken off my Christmas card
16 list. I was kind of hesitant. When I first started
17 working for this committee, I was impressed with the
18 committee. I went in very, very negatively. I
19 figured there was a lot of rumors I heard around in
20 the past. Nobody has brought it up on the floor
21 today. I always heard all these rumors about this
22 committee was entirely unbalance. And I'll be very
23 honest, it's totally untrue.

24 First of all, the Standards Council has done
25 a good job over the years in keeping this committee

1 balanced. We are a little oversized but there's
2 reasons for that because we are really dealing with
3 three different subjects. We have the big displays,
4 the consumer displays, we have the consumer stuff and
5 we have, believe it or not, the rocketry. And
6 because of that we have a lot of different
7 manufacturers' interest, we have consumer interest
8 and so forth, and the committee is a little
9 oversized.

10 But we do have 11 enforcers on the
11 committee, okay. There are 11 enforcers on this
12 committee. So it was not like we don't have enforcer
13 input; however, I've got to admit there's a few of
14 those enforces that I've never met in my tenure as
15 chair, and that brings up the subject that was
16 brought up earlier of possible financial help to the
17 enforcers such as you do on some other committees,
18 okay.

19 The other thing I do want to mention. I
20 want to thank publically here on the floor is we have
21 an excellent staff person. Guy Colonna has done a
22 really great job in a very unthanked situation where
23 he has one side that's saying, you know, control this
24 committee more. He's got the other side and the
25 rules are saying the staff shouldn't be controlled,

1 they're supposed to be making sure that regulations
2 are followed and so forth. And Guy has done a
3 fantastic job.

4 Now, for the facts. That's one think we're
5 trying to do here is gather facts and so forth.
6 We've already heard a lot of facts. That's a lot
7 more facts that might be able to come out. And we
8 even heard some of the committee members and people
9 from APA say, of course it's not perfect. There's
10 things, the testing that's been done Southwest has
11 showed us, we need to make some changes. Things
12 change. 101 isn't a perfect document. 1 isn't a
13 perfect document. Sure don't want to bring up 13.
14 That's not a perfect document, okay.

15 That's why we have code cycles, the improve
16 and change things as we find information. I think
17 the information on the restraint of the things that
18 shoot off is excellent information and we need to get
19 maybe an annex note how this stuff should be built to
20 try to get a little more detail on it. We did that,
21 maybe now that's coming back to bite us when we put
22 the annex notes in on sprinkler densities and people
23 were asking about sprinkler density. And by the way,
24 Chapter 7 that is an annex. That is not in Chapter
25 7, that's an annex note to Chapter 7 and it was put

1 in because people wanted information.

2 We want to take that annex note back out
3 again, I have no problem, but I do want to point out
4 as chair I am more interested in the procedural
5 things than the facts. If you ask me what's in 1124,
6 half the stuff I have no idea what's in 1124 because
7 as chair my responsibility is to make sure that the
8 committee meetings are run properly and we follow the
9 regulations.

10 And on the subject of following the
11 regulations, I want to point out one thing. We've
12 gone through two code cycles. During those two code
13 cycles we have support of a balanced committee. We
14 have the support of the floor. Did we have
15 amendments from the floor? We just discussed
16 sprinkler thresholds. We have amendments from the
17 floor, doesn't matter Standards Council along with
18 some more amendments from the Standards Council and
19 it went through. It went through a very good NFPA
20 code and standards writing process.

21 We went through another code cycle in which
22 we had very, very few public proposals, which, to be
23 honest, amazed me. I thought with the subject at
24 hand we would have a lot more public proposals during
25 the second code cycle. And it went through the NFPA

1 membership again.

2 And that to me is where my point is here at
3 this point. We have gone through two code cycles
4 following totalling the NFPA regulations governing
5 committee projects. The membership has spoken twice
6 now that they support this, and we are a membership
7 organization. I sometimes think we start to forget
8 that.

9 When I was on staff, when I first started on
10 the staff in NFPA there was a guy that was president
11 of NFPA at the time, great gentleman named Charles
12 Morgan. And Charles Morgan used to come around to
13 staff and he used to come around every once in a
14 while and just kind of remind us, we are a staff
15 organization, we service our members, okay. I'm
16 sorry, I said that wrong, we're not a staff
17 organization, we're a membership organization and we
18 serve our members.

19 And the membership has spoken at least
20 twice. And I get the gist from Jim Pauley that the
21 membership has spoken pretty heavily in the letters
22 coming in, and we've got to be careful of not
23 overdoing or not throwing our system out the window
24 essentially. And I'm very concerned that a
25 unilateral removal of Chapter 7, and I'm already

1 getting the gist that we're not talking unilateral
2 removal anymore, but a unilateral removal of Chapter
3 7 in my opinion really hurts that process, okay.

4 I did not see anything, after reading the
5 whole report, okay, I did not see anything in that
6 report in the body of the report that was so damning
7 that we really needed to take an action of taking all
8 of this stuff out. Does it show some possible
9 problems with the testimony today, some possible
10 problems, yeah, but nothing so damning that this
11 drastic action should be taken.

12 From the chair's side I've got to be very
13 honest, and I know I probably shouldn't say this last
14 comment, but I've got to be very honest, I think that
15 if a report like this had come out about material in
16 NFPA 101 or NFPA 13 or 72, I think the report would
17 have been turned back to the committee for the
18 committee to comment on before such a public hearing
19 was held. And I believe from my aspect as chair that
20 was one of my biggest disappointments about is that I
21 think when this report came out, I think the
22 committee should have been given an opportunity to
23 review the report, provide its feedback back to you
24 before we had such a public situation. Thank you.

25 CHAIRMAN PAULEY: Thank you. I'll take just

1 a few more brief comments if anybody has them
2 relative to the topic then I want to open it to
3 questions of Council. Again, if you want to come to
4 the mike and say keep Chapter 7, you know, I
5 understand that. We've just want to let you know
6 again we've heard that point.

7 KEN BUSH: Thank you, Mr. Chairman. My name
8 is Ken Bush. I'm with the Maryland State Fire
9 Marshals Office, before I'm branded as just another
10 fire marshal. I'm also here to represent the
11 technical committee for mercantile business
12 occupancy, NFPA 101, 5000, and as the chair of that
13 committee.

14 I have two roles here to play this morning
15 with regards to this, and I understand that we've
16 heard before that we need to keep Chapter 7, etc.,
17 etc., however, there's a couple additional points I'd
18 like to make.

19 We note that NFPA 1124 is a recognized
20 consensus standard with the requirements therein
21 written and approved only with consideration from all
22 interest groups, including consumers, manufacturers
23 and code authorities. However, without the direction
24 of these individuals in the committee, the general
25 public would be left with an untested variety of

1 requirements that may not support the level of safety
2 which could be necessary for adequate protection, not
3 only for safety of the general public but for the
4 protection of buildings and facilities and
5 continuation of good business practices.

6 In addition, without that standard for the
7 minimum level of protection, code authorities would
8 be forced to implement individual levels of
9 protection that could be difficult to standardize and
10 to be met by manufacturers, retail outlets and
11 consumers. These minimum levels of protection could
12 be established on a basis which could place
13 unnecessary burden on consumers to comply with,
14 over-restrictive mandates and could institute
15 unnecessary risks for code authorities who establish
16 minimal levels of protection without the technical
17 expertise associated with these issues.

18 Speaking on behalf of the technical
19 committee on mercantile business occupancies and life
20 safety code, that committee has considered the
21 regulations for the display and sale of consumer
22 fireworks and find them to be more appropriately
23 regulated by the technical committee on pyrotechnics
24 responsible for NFPA 1124.

25 Consideration on this issue has been ongoing

1 for over eight years, with representation from a
2 large body of interest groups, including members of
3 the technical committees. The mercantile business
4 technical committee sites a lack of sufficient levels
5 of expertise to adequately set minimum standards for
6 the safe display and sale of these specialized
7 products.

8 In addition, there is a sense for the need
9 for other areas of protection to be addressed,
10 including property protection issues, firefighter
11 safety, building construction requirements, and
12 business continuity concerns which are not within the
13 scope of that technical committee's documents.

14 Other special considerations may include the
15 issuance of permits and restrictions on the sale of
16 such merchandise, particularly during holiday periods
17 of high product demand.

18 In addition, other matters concerning
19 firefighter operation and other site fire safety
20 issues clearly should not be addressed in life safety
21 or building codes. Such issues may concern
22 firefighter access and fire lanes, parking, vehicle
23 proximity, control of vegetation, and other
24 combustible and the control of other dangerous and/or
25 hazard products or materials that are on site.

1 The design, construction, location and
2 protection of temporary structures, stands,
3 enclosures, tents, canopies, temporary membranes are
4 all without size and scope of the building code and
5 life safety technical committee.

6 In addition, there are other operational
7 issues including security, housekeeping, staff
8 training and monitoring, theft protection, and record
9 maintenance which must be addressed in order to
10 promote and maintain an acceptable level of safety
11 for all persons involved.

12 It is the feeling of the technical committee
13 on mercantile and business occupancies that the
14 technical committee on pyrotechnics has a member with
15 much more experience, knowledge and understanding of
16 the nature of this product and the hazards associated
17 with handling, storage, display and sales; therefore,
18 it would be prudent to regulate all aspects of these
19 materials on one code location that would give the
20 opportunity of the user to seek and to locate all
21 such requirements in one common location without a
22 general code search.

23 In another matter, the mercantile business
24 technical committee has been hesitant to specify
25 levels of protection for individual products, and

1 this has been good for possible listing of an
2 unmanageable directive of products that would require
3 specialized consideration. Such products may include
4 other forms of explosives, ammunition, oxidizers,
5 flammable liquids and solids and a variety of
6 products which are commonly available for purchase to
7 the general public.

8 It is recognized that special proficiency is
9 required to regulate aspects which are unique to this
10 product. As an example the code makes special
11 restrictions in certain parts of consumer fireworks
12 which are deemed more hazardous than others; hence,
13 the need to display such products with covered
14 protective fuses, packaging and product markings,
15 warnings and labels which also play a very important
16 role. These products also are in the control
17 sometimes of children and other persons who don't
18 possess a level of responsibility to safely handle it
19 and they need to be regulated in that fashion.

20 We also recognize that there are special
21 flame breaks that are necessary in order to ensure
22 that the fire spread is controlled due to the rapid
23 burning nature of the product.

24 In conclusion, it is the feeling of this
25 presenter as well as the technical committee, which I

1 represent, that the requirement of the display,
2 distribution and sale of consumer fireworks should
3 not be withdrawn by the Council and should be
4 established and maintained by the technical committee
5 on pyrotechnics as a part of NFPA 1124. We thank you
6 for the time and consideration at issue.

7 CHAIRMAN PAULEY: Thank you. And again
8 further, anyone that's on the list of speakers to
9 speak that did not have an opportunity please.

10 MIKE INGRAM: Yes, thank you. My name is
11 Mike Ingram. I'm the president of Fireworks Over
12 America out of Springfield, Missouri. I'm also two
13 time past president of the American Pyrotechnics
14 Association, and I'm currently on the board of
15 directors for the American Pyrotechnics Association.

16 And based on the testimony that we've heard
17 today by John Robison, Jim Lathrop and members of
18 IFMA, the American Pyrotechnics Association feels
19 that their position regarding Chapter 7 of NFPA 1124
20 is reasonable if IFMA works through the technical
21 committee on pyrotechnics.

22 And we look forward, the APA does, as does
23 the members of the technical committee on
24 pyrotechnics in working with IFMA in making Chapter 7
25 of NFPA 1124 and even better document than it is

1 today. Thank you.

2 CHAIRMAN PAULEY: Thank you. Yes, please.

3 PAGE DOUGHERTY: Page Dougherty representing
4 California State Firefighters Association, the board
5 of directors and their executive director, John Dane.

6 Our organization is one of the sole, one of
7 the few that supported the foundation's
8 recommendation to your Council to remove Chapter 7.
9 We did so with a California perspective in mind. I'd
10 like to tell you just so you get a precise
11 perspective of why our letter was sent.

12 California does have a more restrictive
13 definition of what consumer fireworks are. We also
14 have a very well placed system and state requirements
15 for the sales of fireworks within our communities,
16 and only those communities that locally approved them
17 are doing so. So it's really based with that
18 perspective in mind that our letter was sent.

19 CHAIRMAN PAULEY: Thank you. At this point
20 I'm going to open this up to questions from the
21 Council to try to finish out the time that we have.
22 Mr. Gerdes please.

23 RALPH GERDES: Ralph Gerdes, council member.
24 And I guess somebody asked this of Jon Nisja or Ken
25 Bush, one of the fire marshals. In the United States

1 there's a dominant building code, and most of the
2 states have adopted this building code. And this
3 building code does regulate fireworks, considers the
4 occupancy and requires sprinklers, control den,
5 construction, etc.

6 Why is there a need for 1124 when there's a
7 building code that addresses this issue? They don't
8 like what's in the building code? You've amended the
9 building code or you prefer 1124? Can anybody answer
10 that?

11 JON NISJA: Again the name is Jon Nisja
12 representing the International Fire Marshals
13 Association. I think there's a couple of factors
14 that come into that. Number one, the codes tend to
15 use either exempt amounts or maximum amounts of
16 quantities, and above that point it's regulated.
17 Under that point it tends not to be.

18 So I'm not sure that it would be a fair
19 statement to say that all consumer fireworks retail
20 sales are regulated under a building code.

21 The other issue we deal with is a lot of
22 places in the country that haven't adopted the
23 building code. The state that I come from, over 80
24 percent of the land mass is not covered by a building
25 code. So you need those types of provisions in a

1 fire prevention code or a life safety code or some
2 other standard that you can adopt and address at that
3 point.

4 I understand the scope of the building code
5 is very limited to new structures and renovations to
6 existing structures. It doesn't cover the 95 percent
7 of the buildings that are out there existing already,
8 don't quote me on that number, but, you know, the
9 predominant buildings that are existing. I hope that
10 answers your question. Certainly defer to other code
11 experts in the room.

12 CHAIRMAN PAULEY: Thank you.

13 KEN BUSH: Yes, Ken Bush with the Maryland
14 State Fire Marshals. To expand on that, I think
15 there are many other structures may exist where the
16 sale of these products are continued that don't fall
17 under the purview of the building code, such as
18 stands, tents, canopies, things like that which I
19 think there is a need for protection for these type
20 of structures as well as what may be covered strictly
21 by the building code.

22 CHAIRMAN PAULEY: Further questions, Ralph?

23 RALPH GERDES: I've got my answer.

24 CHAIRMAN PAULEY: Did you have a comment on
25 that particular question?

1 REUBEN GOLDBERG: I was advised to come to
2 the microphone, I'm not on the speaker list, but I do
3 have a comment I would like to make.

4 CHAIRMAN PAULEY: If it's brief I'll allow
5 it at this point.

6 REUBEN GOLDBERG: Yes. My name is Reuben
7 Goldberg. I'm on a technical committee. It was a
8 long learning process to find out how all the
9 procedures work and who you have to follow procedure
10 and deadlines and make all the requirements match the
11 requirements of the technical committee.

12 I don't have a lot of expertise in this
13 topic, but I'm truly disappointed that the system
14 that was drummed into me as the way the NFPA works is
15 not happening now, because it seems as if you've
16 taken it out of the consensus, out of the normal
17 range of how everything works and have taken it upon
18 yourself. And I think that it should have, as the
19 chair to the committee said, that that report should
20 have gone to the committee by procedure and then
21 progressed around rather than being hijacked here.

22 CHAIRMAN PAULEY: Thank you. Mr. Puchovsky,
23 please.

24 MILOSH PUCHOVSKY: Milosh Puchovsky,
25 secretary of Council. This question is directed -- I

1 actually have three questions. First question here
2 is directed towards Jonathan Perricone and it
3 pertains to the foundation report.

4 In the conclusion of your report there are a
5 number of paragraphs in which you seek the provisions
6 of Chapter 7 of NFPA 1124. In almost each one of
7 these you make one of several comments. One is that
8 there's no basis for the requirements, other there
9 was supporting data that was described as presented
10 inadequate at best, and often you state there is
11 further research that is needed. You didn't state
12 those conclusions today as part of your report. Are
13 those still your conclusions with regards to your
14 study?

15 JONATHAN PERRICONE: Jonathan Perricone,
16 Schirmer Engineering. Yes, I do believe there is
17 significant room for improvement in the way of a need
18 for more experimental data in each of the areas
19 referenced.

20 MILOSH PUCHOVSKY: Thank you. The other
21 question is more general. So far, at least at the
22 hearing today, with regard to test reports, test data
23 and research results, there are some that were
24 referenced in the foundation report. We've discussed
25 those that were ongoing at Southwest Research from

1 October to December, and there was also reference
2 made to some test reports that were done four to five
3 years ago. The question is are there other test
4 reports or research studies available when they have
5 been conducted? This is a general question. No
6 response?

7 JONATHAN PERRICONE: Jonathan Perricone,
8 Schirmer Engineering. I did not find any additional
9 test data to review. I assume that question was
10 directed to the general assembly here.

11 MILOSH PUCHOVSKY: Yes, the general
12 assembly.

13 JOHN CONKLING: John Conkling, American
14 Pyrotechnic Association. Much of the testing that
15 the committee on pyrotechnics relied upon in its
16 development of 1124 from the very beginning has been
17 the experience of the fireworks industry. There have
18 been fires at retail sales facilities. There's been
19 fires at storage facilities.

20 Based on the experience of those fires, it
21 was the experience of the members on the technical
22 committee as to corrective measures that should go
23 into the standards. Have those been documented, I
24 would imagine a Google search of a fireworks fire it
25 would turn up some of those incidents certainly.

1 We did not receive, I speak for Julie
2 Heckman, I don't believe the American Pyrotechnics
3 Association received any inquiries of were there, was
4 there data available. Most of it is based on
5 experience.

6 The first tests that we did, the 1983 test
7 we did that I believe I provided Mr. Perricone with a
8 reference to those where we burned shipping
9 containers of consumer fireworks back in 1983 in
10 conjunction with the Department of Transportation,
11 the Bureau of Alcohol, Tobacco and Firearms, we had a
12 fire, we had a real pretty fire. No explosion, which
13 was the real purpose for that.

14 The comments from the fire service,
15 primarily the state of Washington, had suggested that
16 these containers would mass explode. We burned them
17 to see what would happen. As Mr. Perricone, in his
18 report indicated, it was a slow fire moving carton to
19 carton. That was our largest documented test.

20 But the beginnings of the true fire testing
21 as this has continued to evolve as a science started
22 a few years back, and we learned a lot from those
23 tests and the Southwest test in terms of a documented
24 scientific report. I believe that the Southwest test
25 is the most definitive one we have at this time.

1 CHAIRMAN PAULEY: Thank you. Mr. Lathrop,
2 did you want to respond to the question?

3 JIM LATHROP: Jim Lathrop, chairman of the
4 committee on pyrotechnics. I guess it probably gets
5 to the definition of what is a test versus, you know,
6 is it a scientific test with research report and all
7 that stuff or not, because there has a bunch of
8 testing done trying to develop these new standards on
9 the fuse covers and the flame breaks and the
10 packaging, and they've been run at different fire
11 centers. We did some down in South Carolina, did
12 some down in Alabama and stuff, but these are kind of
13 like things to try to help develop these test
14 methods.

15 So there have fires but it hasn't been a
16 situation where you get a nice little written report
17 because it's been done by, you know, task group
18 members working with various state fire captains and
19 things. So again it gets down to I don't want people
20 to think we're hiding those tests, we're not, it's
21 just a matter those were not scientific research lab,
22 you know, a report type of test.

23 MILOSH PUCHOVSKY: Milosh Puchovsky,
24 secretary to the Council. I have one more question.
25 What research is currently proposed or contemplated

1 for the future? Again this is a general question.

2 JOHN CONKLING: John Conkling, American
3 Pyrotechnics Association, retired. A lot depends on
4 what you gentlemen decide. You know, we're going to
5 do more testing. We want to understand our
6 commodity. We look for input on what sort of tests
7 might be the most valuable. Obviously there's
8 limited dollars to put towards testing.

9 We remain committed to do testing. So we're
10 looking for input following the code process.
11 Following our technical committee discussions we hope
12 to learn what the consensus is as to next best test
13 we can do. We want to understand our product. We
14 want to be able to sell it in the safest possible
15 manner. We're ready, willing and able to do most
16 testing. Just let us know what you'd like to see
17 tested and we'll have discussions on possibly doing
18 it.

19 CHAIRMAN PAULEY: Thank you. Mr. Huggins
20 please.

21 ROLAND HUGGINS: Roland Huggins, council
22 member. A quick question for Mr. Lathrop.
23 Procedurally speaking you've have a couple of NFPA 13
24 members comment that they're interested and concerned
25 about the criteria in the annex. Have you or do you

1 intend to initiate a request to have NFPA 13
2 participate in an evaluation before your cycle ends?

3 JIM LATHROP: Jim Lathrop, chairman of
4 pyrotechnics. I'm the type of person I like to have
5 everybody involved, so I have no problem whatsoever
6 if we can get the sprinkler committee in.

7 The thing, the reason it was put in the
8 annex, to be very honest, was because we had people
9 saying what should we do, and therefore that was put
10 in the annex. I have no problem with the annex note
11 personally. Again I'm not speaking for the
12 committee. I have no problem if the annex note comes
13 out, to be honest, okay.

14 It's to try to help people use the document.
15 I think we've seen in some discussions today that
16 maybe technically it does have some flaws, I don't
17 know. So let the whole sprinkler committee take it
18 out, I don't care, but that's again speaking for
19 myself. But having involvement with other committees
20 that's going to do my trade, I have no problem. No
21 problem at all.

22 ROLAND HUGGINS: Not are you willing and
23 able to do that, are you going to initiate that
24 action?

25 JIM LATHROP: Not if you take it out of

1 Chapter 7. That's what it comes down to. In fact, I
2 was just talking to Roland only a few minutes ago.
3 The timeliness of this discussion, hopefully we're
4 going to get the results of this fairly quickly
5 because we're going into cycle and we need to know
6 what we're going to be talking about when we go into
7 cycle and that would be one of the items. You're
8 totally correct, yes. As long as we this, we'll
9 address it.

10 CHAIRMAN PAULEY: Thank you. Mr. Milke
11 please.

12 JAMES MILKE: Jim Milke, member of Council.
13 I have a question to perhaps Jim Lathrop or one of
14 the fire marshals in the audience here. Do we have
15 any idea what the profile or retail establishments
16 are? We're heard different, I mean 95 percent or
17 whatever is involved in a certain size, but there are
18 certainly the stands and the tents all that sort of
19 thing. Does anybody regulate these facilities that
20 have sense at all for what the distribution of these
21 facilities look like?

22 JIM LATHROP: Jim Lathrop, chair of
23 pyrotechnics. I almost said means of egress, but
24 anyhow you're asking from an enforcer, and I think
25 that might not be the way to get the answer, because

1 we do have people that represent the different
2 merchandisers, whatever you call it, merchandisers of
3 the product and they might be able to answer that
4 also for you, because I'll be honest again, as chair
5 one of the things I was kind of surprised of is there
6 is a big diversion between doing it in a big box
7 versus doing it in it's only little, you know, stand
8 or that type of thing.

9 CHAIRMAN PAULEY: Is this a response to that
10 question?

11 JULIE HECKMAN: I'm Julie Heckman, executive
12 director of the American Pyrotechnics Association.
13 I'm going to give you a little bit of background. We
14 have over 250 member companies in our organization.
15 There are thousands of retailer establishments that
16 sell consumer fireworks each year. Many of them are
17 temporary stands and tents during the Fourth of July
18 season; however, the real growth in the firework
19 industry has been in the consumer fireworks segment.
20 Over 250 million pounds of fireworks are used in this
21 country each year for backyard general celebrations
22 out of a total of 280 million industry-wide.

23 So in the past five years, backyard sales
24 and use have more than doubled. That's why we're
25 here trying to make certain we retain 1124 in Chapter

1 7 because it is the only footprint, the only guidance
2 out there nationwide to protect the public, the
3 personnel and the fire community that deals with
4 these establishments.

5 When you've got the mixed mercantile or big
6 box stores and you the tents and you have the stands
7 and now we have record growth in the full line
8 fireworks superstores, which are built beautifully to
9 1124 if you go out and you look at them.

10 I want to emphasize one thing. When you
11 talk about the building code, you know, why we need
12 1124, the coding code requirements, 1124 is viewed as
13 the industry consensus standard. Guess what, that's
14 embraced by federal OSHA. And OSHA uses 1124 to
15 inspect fireworks facilities for compliance.

16 We just proudly finished a safety training
17 video for fireworks facilities for OSHA inspectors.
18 I invite you to come by the APA booth at the expo and
19 view this piece of work because it highlights
20 beautifully what's been done in 1124 at this point.

21 And one final comment, APA is here because
22 we are committed to this. We want to work through
23 the process. We will do whatever additional testing
24 it takes to further enhance 1124 and make certain
25 that the public, the personnel and the fire community

1 are protected.

2 CHAIRMAN PAULEY: Thank you. Are there any
3 follow-up questions from members of Council?

4 JERRY WINGARD: Can I answer his?

5 CHAIRMAN PAULEY: Did you get an answer,
6 Jim, or are you still looking for one?

7 JAMES MILKE: Not particularly, yes. It
8 would be good if we could get one.

9 CHAIRMAN PAULEY: If you want to respond to
10 his question, I'll allow it.

11 JERRY WINGARD: Jerry Wingard, Administrator
12 for pyrotechnics board in South Carolina. As stated
13 in our earlier letter, we have approximately a
14 thousand facilities in South Carolina, and half are
15 permanent facilities and half are seasonal.

16 CHAIRMAN PAULEY: With that I'm going to
17 move to close this hearing. I want to thank everyone
18 that participated in this hearing today. I would ask
19 that any of you that read prepared remarks, if you
20 can, if I can leave a copy of those remarks with NFPA
21 staff, it would certainly help our stenotypist as
22 they go back through the record. So if you have
23 those remarks, I would appreciate it.

24 I do want to remind everyone that the
25 Council will issue, that there will be a written

1 decision issued by the secretary of the Standards
2 Council. No member of the Council nor any member of
3 NFPA staff will comment or provide any information,
4 it will only be provided in that written document
5 that comes from the secretary of the Standards
6 Council. With that I'll declare this hearing closed.
7 Thank you again for your participation.

8 (Thereupon the proceedings
9 were concluded at 11:02 a.m.)

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1 CERTIFICATE OF REPORTER

2 STATE OF NEVADA)

3 SS:

4 COUNTY OF CLARK.)

5 I, Deborah Ann Hines, certified court
6 reporter, do hereby certify that I took down in
7 shorthand (Stenotype) all of the proceedings had in
8 the before-entitled matter at the time and place
9 indicated; and that thereafter said shorthand notes
10 were transcribed into typewriting at and under my
11 direction and supervision and the foregoing
12 transcript constitutes a full, true and accurate
13 record of the proceedings had.

14 IN WITNESS WHEREOF, I have hereunto affixed
15 my hand this _____ day of _____, 2008.

16

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19 _____
Deborah Ann Hines, CCR #473, RPR

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