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LOG OF TELEPHONE CALL

DIRECTORATE FOR ENGINEERING SCIENCES

MECHANICAL ENGINEERING DIVISION

SUBJECT: Draft Protocol Comments Discussion

DATE OF CALL: 4/24/95

LOG ENTRY SOURCE: Rikki Khanna, ESME *rk*

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Karen Sur, National Association of State Fire Marshals
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Joe Ziolkowski, American Furniture Manufacturers Association
Hugh Talley, Upholstered Furniture Action Council
Sayeed Nurbakhsh, California Bureau of Home Furnishings
Fran Lichtenberg, The Society of the Plastics Industry, Inc.
Kurt Reimann, The Society of the Plastics Industry, Inc.
Gordon Damant, Inter-City Testing & Consulting Corporation of California

SUMMARY OF CONVERSATION:

The purpose of the conference call was to discuss comments concerning the CPSC Research Protocol for Small Open-Flame Ignitability of Full Scale Upholstered Furniture. Reviewers of the protocol offered the following comments:

Section 4.1 Test Apparatus

- * Addition of a PMMA/acrylic base a few inches from the top of the platform to simulate a floor. (K.V.)

- * Addition of a baffle to the test platform (H.T.)

DISCUSSION: The addition of a base to simulate floor configuration will not have a significant effect on the ignition behavior of the dust cover.

Section 4.2 Test Enclosure

- * Remove the .2 m/s air flow rate criteria in the proximity of the test specimen, and add "to avoid flickering of the flame". (T.O.)

DISCUSSION: The airflow is currently being monitored at the specified flow rate. No flickering has been observed under the current LSEL setup.

Section 5.1 Atmospheres for Conditioning and Testing

- * Add a lower limit of 40% for the relative humidity during sample conditioning. (T.O)

DISCUSSION: The humidity content of cellulosic materials does not have a noticeable effect on fire behavior until it exceeds 60%. (G.D.) A lower bound for humidity may not be necessary.

Section 6.2.2 Ignition Source Application

- * Construct a mechanical device to position burner under the dust cover to standardize the flame application. (T.O.)
- * The tip of the flame is cooler than the lower part of the flame. (T.O.)
- * Provide diagrams illustrating a top and side elevation of how the burner is placed under the dust cover. (K.V.)
- * Add a test that uses a 3 second flame exposure because a shorter exposure time may be more severe than a longer time for thermoplastic materials. (K.V.)
- * Comments that a 15 second flame exposure is unrealistically high. Observations made by Mr. Talley on burn times for matches are closer to an average of 6 seconds. (H.T. & J.Z.)

DISCUSSION: ES and LSEL are considering alternate methods to accommodate concerns on flame impingement. For the purposes of the research protocol, fabrication of a simple device to prevent the tester from following the flame and standardizing application is being explored.

Diagrams will be added to the protocol to illustrate how the burner is positioned under the sample.

Decisions concerning ignition times will be deferred until further study is done on burn times of various small open-flame sources.

Section 6.3.2 Observations

- * Change wording to read " Total flame time the furniture continues to burn after the burner is removed". (K.V.)
- * Record the duration of flaming of any dripping/melting pieces (S.N.)

DISCUSSION: Comments concerning the wording of the observations will be incorporated into the protocol.

Duration of flaming dripping/melted pieces that continue to burn once they reach the base of platform will be recorded to assess the possibility of carpet/floor involvement.

Section 6.3.3 Char Area

- * Clarification needed on the definition of char area. (J.Z.)

DISCUSSION: Definition of char area will be incorporated into the protocol.

Section 7.1.4 Preparation

- * Change wording to read "record the height of skirt", to reflect common industry terminology. (J.Z.)

DISCUSSION: Comments concerning the wording of the Preparation Section will be incorporated into the protocol.

Section 7.2.2 Ignition Source Application

- * Construct a mechanical device to position burner under skirt. (T.O.)
- * Position the burner a certain distance from the leg of the chair. (H.T.)
- * Comments that a 15 second flame exposure is unrealistically high. (H.T. & J.Z.)

DISCUSSION: ES and LSEL are considering alternate methods to accommodate concerns on flame impingement. For the purposes of the research protocol, fabrication of a simple device to standardize flame application on the skirt is being explored.

Decisions concerning ignition times will be deferred until further study is done on burn times of various small open-flame sources.

Section 7.3.2 Observations

- * Change wording to read " Total flame time the furniture continues to burn after

the burner is removed". (K.V.)

- * Record the duration of flaming of any dripping/melting pieces. (S.N.)

DISCUSSION: Comments concerning the wording of the observations will be incorporated into the protocol.

Duration of flaming dripping/melted pieces that continue to burn once they reach the base of platform will be recorded to assess the possibility of carpet/floor involvement.

Section 7.3.3 Flame Progression Measurement

- * Measure the "vertical" distance of flame progression (char) from bottom edge of the skirt. (J.Z.)

DISCUSSION: Comment will be incorporated into the protocol.

Section 8.1.3 Preparation

- * Replace the word "junction" with "crevice".
- * Include a diagram to show the marking of the seat/back and arm/back crevice. (K.V.)
- * Add English units in parenthesis (J.Z.).

DISCUSSION: Comments will be incorporated into the protocol.

Section 8.2 Ignition Source Application

- * Add a section to describe the geometry of the crevice.
- * Comments that a 20 second flame exposure is unrealistically long (H.T. & J.Z.).

DISCUSSION: The description of the geometry of the crevice will be noted for the test.

Decisions concerning ignition times will be deferred until further study is done on burn times of various small open-flame sources.

Section 8.3 Observations

- * Change wording to read " Total flame time the furniture continues to burn after the burner is removed". (K.V.)
- * Delete 8.3.2.4, since the seating area test will not involve other components of the chair.

DISCUSSION: Comments will be incorporated into the protocol.

The CPSC staff appreciated the contributions of the group and will make appropriate revisions to the test protocol before conducting full scale testing.

VENTED WALL FURNACES

COUNT	TASK #	MANUFACTURER	MODEL	CODE	ACC DT	REP DT	SERIAL#	TYPE OF HOME	FURNACE	FAILURE
4	23	85032WES4174 UNK	UNK	K	2/6/85	5/28/85		WALL HEATER	WALL HEATER	CO POISONING CAUSED BY BLOCKED FLUE
9	62	84049WES4101 PEERLESS	UNK	M	3/6/84	5/23/84		WALL HEATER	WALL HEATER	CHIMNEY PLUGGED WITH PIECES OF MORTAR AND PARTICLES
10	67	880203CCC0143 WESTWOOD	PANELRAY	D	12/15/87	3/17/88		APARTMENT	WALL HEATER	IMPROPER INSTALLATION OF VENTED WALL HEATER
11	68	860408DAL5060 CARRIER	PANELRAY	K	3/16/86	7/11/86		WALL HEATER	WALL HEATER	DEFECTIVE CONTROLS AND BLOCKED FLUE
19	100	880119WES5003 ROYAL CHATTANOOGA	6235XN	D	1/4/88	3/23/88		WALL FURNACE	WALL FURNACE	FURNACE IMPROPERLY VENTED
20	102	880229CCC0182 UNK	UNK	R	1/9/88	4/28/88		WALL HEATER	WALL HEATER	CLOGGED VENTS/SNOW MELTED ON THE VENT AND TURNED TO ICE
29	160	90091DCCC1667 NARROWWALL	3508-D	R	12/26/89	11/30/90		HOUSE	WALL FURNACE	VENT TO FURNACE BECAME CLOGGED SPOILING CO INTO THE HOME
31	170	910109CWE6001 LENNOX	G13-35PWI	H	1/5/91	4/9/91		WALL HEATER	WALL HEATER	DISLOCATED ROOFTOP WALL HEATER VENT
32	176	910416CCG3418 WILLIAMS	A35-SSD	R,U	12/13/90	6/4/91		WALL FURNACE	WALL FURNACE	VENTURI PLUGGED AND VENT PARTIALLY BLOCKED
34	182	920106CCC3158 WILLIAM	GRAVITY 35GV-C-5	V	12/29/90	11/12/92		WALL HEATER	WALL HEATER	CO CAUSED BY MODIFICATIONS TO A WALL FURNACE
35	193	920309HCC0130 COLEMAN	PANEL RAY	K	1/18/92	5/22/92		MOTEL	WALL HEATER	EXHAUST PIPE PLUGGED WITH SOOT
41	244	940318CWE5019 KRESKY	UNK	J	1/10/94	7/12/94		WALL HEATER	WALL HEATER	FLUE HAD SLIPPED DOWN OVER THE YEARS AND WAS VENTING INTO ROOM
42	249	940926CCC3885 HOLLY	50D	V	12/17/93	3/8/95		BUTANE WALL FURNACE	WALL HEATER	BLOCKED OR CLOGGED VENT PIPE
CEN-16	325	940414CWE7308 PEERLESS	WF 35	R	3/6/94	8/19/94		WALL HEATER	WALL HEATER	FLUE BLOCKED
CEN-35	186	890118WES4012 HOLLY MFG	B35SD	K	12/6/88	4/10/89		APARTMENT	WALL HEATER	VENT CLOGGED WITH RAG
CEN-80	586	880120CCC0119 WILLIAMS	B35SD	R	12/16/87	4/28/88		APARTMENT	WALL HEATER	VENT CLOGGED WITH RAG

CODE DEFINITIONS

- C = IMPROPER INSTALLATION OF FLUE
- D = IMPROPER VENTILATION
- E = CLOGGED PIPES
- F = CORRODED VENT
- G = DIBRIS IN DUCT WORK
- H = DETACHED OR DISCONNECTED VENT
- I = CORRODED FLUE/HOLE IN FLUE
- J = DETACHED FLUE
- K = BLOCKED FLUE
- L = CORRODED EXHAUST VENT
- M = BLOCKED CHIMNEY
- N = CRACKED OR LEAKING PIPE
- O = POOR MAINTENANCE
- P = OPEN EXHAUST DUCT
- Q = DAMAGED CHIMNEY
- R = BLOCKED VENT
- S = IMPROPER INSTALLATION OF FURNACE
- T = NOT APPLICABLE
- U = OTHER
- V = UNKNOWN