



MANUFACTURED HOUSING CONSENSUS COMMITTEE

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MINUTES MHCC STRUCTURE AND DESIGN SUBCOMMITTEE MEETING

October 26-27, 2016

Holiday Inn - Capital | Washington, DC

(Approved on October 30, 2019 at the MHCC Meeting in Washington DC)

MINUTES

MANUFACTURED HOUSING CONSENSUS COMMITTEE (MHCC) STRUCTURE & DESIGN SUBCOMMITTEE MEETING

October 26-27, 2016

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DAY 1: Wednesday, October 26, 2016

The Manufactured Housing Consensus Committee (MHCC) Structure and Design Subcommittee meeting was held during the October 25-27, 2016 meetings in Washington, DC. Chairman, Jeffrey Legault, called the meeting to order at 3:15 p.m. (Eastern) on Tuesday, October 25, 2016. Kevin Kauffman, Program Manager of the Administering Organization (AO) Home Innovation Research Labs, called the roll and announced that a quorum was present. See [Appendix A](#) for a list of meeting participants.

Approval of the Minutes

Motion to approve the December 10, 2015 MHCC Structure and Design Subcommittee meeting minutes.

Maker: John Weldy

Second: Joseph Sadler

The motion carried (note: Loretta Dibble abstained as she was not in attendance).

Motion to approve the January 21, 2016 MHCC Structure and Design Subcommittee meeting minutes.

Maker: John Weldy

Second: Joseph Sadler

The motion carried (note: Loretta Dibble abstained as she was not in attendance).

Items Assigned to Structure & Design Subcommittee

The subcommittee was assigned the following tasks related to the EPA Rule: 1) review the working draft of HUD Code changes submitted by HUD ([Appendix B](#)); 2) review Log Item 80; and 3) provide labeling language and location for TSCA Title VI compliance.

Preliminary Working Draft of Changes to MHCSS as a Result of the EPA Rule

Ishbel Dickens said that she liked the strawman provided by HUD but she would like § 3280.308 (d) to remain in the HUD Code.

§ 3280.308 (d) Treatment after certification. If certified plywood or particleboard subsequently is treated with paint, varnish, or any other substance containing formaldehyde, then the certification is no longer valid. In such a case, each stamp or label placed on the panels pursuant to paragraph (c) of this section must be obliterated. In addition, the treated panels may be recertified and reidentified in accordance with paragraphs (b) and (c) of this section.

Richard Mendlen explained the reason § 3280.308 (d) was deleted. EPA's regulations do not include post formaldehyde treatment provisions, so in order to maintain its current requirements, HUD would need to have a separate labeling and treatment post certification program, different from EPA's that would require the large air chamber testing. Mr. Mendlen said EPA's statute regulates "product suppliers only" and does not include finishing applications. HUD is required to follow EPA regulations. It is up to the MHCC to decide how to proceed.

Mark Weiss agreed with Richard Mendlen.

David Tompos, NTA, Inc., was concerned that § 3280.308 (d) was deleted from the HUD code as presented by the working draft submitted by HUD as this section contained more stringent language than the EPA Rule. Therefore, Mr. Tompos submitted his own modifications to the working draft ([Appendix C](#)).

Mr. Tompos began presenting his submittal when it was noted that his proposed change to § 3280.308 (d) was several pages and the subcommittee members requested more time to properly review.

Motion to table the discussion until tomorrow morning allowing the Structure and Design Subcommittee members a chance to review David Tompos' submittal.

Maker: Joseph Sadler

Second: John Weldy

The motion carried.

LOG 80: § 3280.406 (new section)

James Van Schoyck, PFS Corporation, said Log Item 80 provides a secondary test method when testing panels for formaldehyde emission levels that allows for small chamber testing of sample specimens.

There were questions about how the specimens were obtained. Mr. Van Schoyck said during the initial qualification, there is an onsite inspection but subsequent quality control specimens are sent to a qualifying lab for testing.

Richard Weinert, MHCC Chair, explained the chamber is temperature/moisture controlled, clean air is pumped in, and air samples are collected. Mr. Weinert said the section of added language regarding nine evenly distributed samples from the panel might need to be defined. Mr. Weinert asked, what does "evenly distributed" mean.

Ishbel Dickens asked if the secondary test method is as accurate as the primary method. Mr. Van Schoyck said yes, however, you have to prove that the small chamber testing is as accurate as the large chamber test.

Motion to table the discussion until the next day.

Maker: John Weldy

Second: Joseph Sadler

The motion carried.

The Structure and Design Subcommittee adjourned at 3:55 p.m.

DAY 2: Thursday, October 26, 2016

The Structure and Design Subcommittee reconvened at 9:25 a.m.

Preliminary Working Draft of Changes to MHCSS as a Result of the EPA Rule

Richard Weinert reminded committee members to submit any potential proposed changes in legislative edit format i.e., underline and strikethrough. Mr. Weinert said there are regulations that need to be met prior to the product being used in the home. Some manufacturers change the product after they purchase it.

Loretta Dibble asked if the manufacturer becomes a fabricator when they make changes to products during the assemblage process and does that trigger additional testing. Do they have the facilities to perform the tests?

Jeffrey Legault said we are doing this testing now, but the EPA Rule removes the additional testing requirement. Our job is to decide if we want to keep it.

John Weldy asked if small chamber tests should be considered. Mr. Tompos said the EPA requires high volume testing and small chamber testing could potentially save the consumer some money.

Ishbel Dickens asked in § 3280.308 (a) if it lists different types of products. Later in the document you only reference two, was that intentional? Mr. Tompos said yes, typically they are smaller trim type materials not large surface area items.

Mark Weiss said any regulation has the potential to grow. Any seed of additional testing, has the potential in the future to be expanded. Language such as painting and varnishing covers a lot of ground. If you look at the law in which EPA is working, the HUD statute is to conform to the EPA standard. Nothing is stopping someone from performing additional tests, perhaps this shouldn't be mandatory.

Pamela Danner, DFO, informed the subcommittee that HUD debated the removal of § 3280.308 (d) internally and talked to EPA. The EPA expressed a concern that if HUD keeps § 3280.308 (d), HUD would be outside of and inconsistent with the EPA final rule. If § 3280.308 (d) is not removed from the HUD Code, then the manufactured housing industry would be subject to additional regulations that are more than the rest of the housing industry would be required to meet. In addition, a cost analysis would be required. Ms. Danner suggested that when the HUD Rule is published for public comment, the MHCC could include questions about this specific topic. If questions are asked about a section, the MHCC can address those questions and change the rule.

Timothy O'Leary said the manufactured housing industry has suffered from the perception that there are dangerous levels of formaldehyde in our product. Anything we can do to change that perception has value. This will help market our product and will also help the consumer feel a little more comfortable with the product that they are about to purchase. Remember, we are also getting rid of the label that says this house contains formaldehyde. I think this will help the industry more than this testing.

Mark Weiss said we don't have a problem putting questions in the proposed rule. The formaldehyde issue was brought before Congress and it resulted in the EPA statute.

Richard Weinert asked if there was any problem with scrapping the whole section and referencing 40 CFR 770.10.

DFO Danner said that it is essentially what HUD's proposed draft does. Richard Mendlen reminded the subcommittee that the draft has not been reviewed by OGC as they may tweak the language.

Motion to recommend the MHCC approve the Preliminary Working Draft, MHCCS Formaldehyde Emission Controls for Certain Wood Products.

Maker: Ishbel Dickens

Second: Myles Standish

Meeting Vote: 9-0-0

LOG 80: § 3280.406 (new section)

Following the previous discussion, the subcommittee took the following action:

Motion to recommend the MHCC disapprove Log Item 80.

Maker: Joseph Sadler

Second: John Weldy

Meeting Vote: 9-0-0

TSCA Title VI Compliance Language and Location

Richard Weinert said the MHCC was looking to advise HUD on where to place Title VI compliance on the data plate. Jeffrey Legault said that it should be added to the base document.

**Motion for the MHCC to recommend the MHCC to recommend HUD to add § 3280.5 (i)
The statement: Manufacturer certifies that this manufactured home is TSCA Title VI
Compliant.**

Maker: Joseph Sadler

Second: Richard Weinert

The motion carried.

BREAK

Questions to Include in with the Preliminary Working Draft

MHCSS Formaldehyde Emission Controls for Certain Wood Products

Ishbel Dickens submitted some questions for the subcommittee to consider including when the HUD proposal is published as a proposed rule.

Richard Weinert explained that the questions would be included in the rulemaking.

Mark Weiss said manufactured housing manufacturers are considered fabricators under the EPA Rule and although site builders are not considered fabricators, they are still required to use Title VI compliant products.

Motion for the MHCC to recommend HUD to include the following questions in the Preliminary Working Draft, MHCSS Formaldehyde Emission Controls for Certain Wood Products:

- 1. Should HUD continue to require formaldehyde testing for treatment after certification of surface finishing post EPA rulemaking? Can this testing be done in a large or small chamber?**
- 2. If testing for treatment after certification of surface finishing is to continue, what should the formaldehyde limits be?**
- 3. If the testing for treatment after certification is eliminated, should the whole house ventilation be increased? What effect would this have on indoor air quality?**
- 4. What sort of measures could HUD take to assess or mitigate sources of formaldehyde?**

Maker: Richard Weinert

Second: Joseph Sadler

The motion carried.

The MHCC Structure and Design Subcommittee adjourned at 11:25 a.m.

**Appendix A:
Subcommittee Attendees**

Structure & Design			
3280 Subpart A, B, C, D, E, J			
	Name	Email	Attendance
Users	Steven T. Anderson	steveanderson@midco.net	N
	Ishbel Dickens	ishbel@nmhoa.org	Y
	Loretta Dibble	dibble@rci.rutgers.edu	Y
Producers	Myles Standish	mestandish@aol.com	Y
	Jeffrey T. Legault	jlegault@skylinecorp.com	Y
	Dominic Frisina	dominic@romarhomes.com	Y
	John Weldy	john.weldy@claytonhomes.com	Y
General Interest / Public Official	Joseph Sadler	joe.sadler@ncdoi.gov	Y
	Richard Weinert	rweinert@hcd.ca.gov	Y
	Richard Nolan	rnolan@hwceng.com	Y

HUD Staff

Pamela Beck Danner, DFO
 Patricia McDuffie
 Jason McLjury
 Richard Mendlen
 Teresa Payne
 Demetress Stringfield

AO Staff, Home Innovation Research Labs

Kevin Kauffman
 Nay Shah
 Tanya Akers

MHCC Members

MHCC Committee members in attendance at the October 25-27, 2016 meeting were also present.

Other Participants

Lois Starkey, Manufactured Housing Institute
 Mark Weiss, Manufactured Housing Association for Regulatory Reform
 David Tompos, NTA, Inc.
 James Van Schoyck, PFS Corporation



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MHCC STRUCTURE AND DESIGN SUBCOMMITTEE MEETING
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APPENDIX B:
Preliminary Working Draft
Manufactured Home Construction
and Safety Standards
Formaldehyde Emission Controls for Certain
Wood Products
By HUD

10-13-2016

PRELIMINARY WORKING DRAFT

**MANUFACTURED HOME
CONSTRUCTION AND SAFETY
STANDARDS**

**FORMALDEHYDE EMISSION
CONTROLS FOR CERTAIN WOOD
PRODUCTS**

PART 3280—MANUFACTURED HOME CONSTRUCTION AND SAFETY STANDARDS

The authority citation for part 3280 continues to read as follows:

1.Authority: 42 U.S.C. 3535(d), 5403, and 5424

1. Add the following definitions to § 3280.302 to read as follows:

§ 3280.302 Definitions.

* * * * *

Refer to 40 CFR 770.3 for definitions applicable to Subpart D and E only.

* * * * *

§ 3280.308 Formaldehyde emission controls for certain wood products.

- (a) Formaldehyde emission levels. Refer to 40 CFR § 770.10 for maximum formaldehyde emission levels for hardwood plywood made with a veneer core, medium density fiberboard, thin medium density fiberboard, and particleboard. These emission standards apply whether the composite wood product is in the form of a panel, a component part, or incorporated into a finished good.
- (b) Product certification and continuing qualification. Refer to 40 CFR §§ 770.7, 770.15, 770.20, and 770.21.
- (c) Panel identification. Refer to 40 CFR § 770.45 for labeling requirements.
- (d) Treatment after Certification. Deleted.
- (e) Finished good certification label. Each manufactured home must be provided with a finished good certification label indicating that the home has been produced with panels or products that comply with the maximum formaldehyde emission requirements of this Part and 40 CFR Part 770.
- (f) Non-complying lots. Refer to 40 CFR § 770.22.

§ 3280.309 Health Notice on formaldehyde emissions. Deleted.

* * * * *

§ 3280.406 Air chamber test method for certification and qualification of formaldehyde emission levels. Refer to 40 CFR §§ 770.15, 770.20, and 770.24.

§ 3280.407 Quality control testing for formaldehyde levels. Refer to 40 CFR §§ 770.20(b).

**PART 3282—MANUFACTURED HOME PROCEDURAL AND ENFORCEMENT
REGULATIONS**

The authority citation for part 3282 continues to read as follows:

1.Authority: 42 U.S.C. 3535(d), 5403, and 5424

1. Add new section 3282.212 to read as follows:

* * * * *

3282.212 TSCA Title VI Recordkeeping Requirements. Manufacturers must maintain bills of lading, invoices or comparable documents that include a written statement from the supplier that the component parts or finished goods are TSCA Title VI compliant for a minimum of three years from the date of purchase.

* * * * *

2. Add new section 3282.257 to read as follows:

* * * * *

3282.257 TSCA Title VI Recordkeeping Requirements. Retailers and distributors must maintain bills of lading, invoices or comparable documents that include a written statement from the supplier that the

component parts or finished goods are TSCA Title VI compliant for a minimum of three years from the date of purchase.

DRAFT



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APPENDIX C: Proposed Modifications to the Preliminary Working Draft Manufactured Home Construction and Safety Standards Formaldehyde Emission Controls for Certain Wood Products

By David Tompos

10-16-2016

PRELIMINARY WORKING DRAFT

**MANUFACTURED HOME
CONSTRUCTION AND SAFETY
STANDARDS**

**FORMALDEHYDE EMISSION
CONTROLS FOR CERTAIN WOOD
PRODUCTS**

PART 3280—MANUFACTURED HOME CONSTRUCTION AND SAFETY STANDARDS

The authority citation for part 3280 continues to read as follows:

1.Authority: 42 U.S.C. 3535(d), 5403, and 5424

1. Add the following definitions to § 3280.302 to read as follows:

§ 3280.302 Definitions.

* * * * *

Refer to 40 CFR 770.3 for definitions applicable to Subpart D and E only.

* * * * *

§ 3280.308 Formaldehyde emission controls for certain wood products.

- (a) Formaldehyde emission levels. Refer to 40 CFR § 770.10 for maximum formaldehyde emission levels for hardwood plywood made with a veneer core, medium density fiberboard, thin medium density fiberboard, and particleboard. These emission standards apply whether the composite wood product is in the form of a panel, a component part, or incorporated into a finished good.
- (b) Product certification and continuing qualification. Refer to 40 CFR §§ 770.7, 770.15, 770.20, and 770.21.
- (c) Panel identification. Refer to 40 CFR § 770.45 for labeling requirements.
- (d) Treatment after Certification. If certified plywood or particleboard subsequently is treated with paint, varnish, or any other substance containing formaldehyde, additional certification of the treated product is required.

- (1) All plywood and particleboard materials treated after certification shall not exceed the following formaldehyde emission levels when installed in manufactured homes:

- i. Plywood materials shall not emit formaldehyde in excess of 0.2 parts per million (ppm) as measured by the air chamber test method specified in §3280.406(b)
- ii. Particleboard shall not emit formaldehyde in excess of 0.3 ppm as measured by the air chamber test specified in § 3280.406(b).

(2) Product certification and continuing qualification. All plywood and particleboard materials to be installed in manufactured homes which are bonded with a resin system or coated with a surface finish containing formaldehyde, other than an exclusively phenol-formaldehyde resin system or finish, shall be certified by a nationally recognized testing laboratory as complying with paragraph (d) of this section.

- i. Separate certification shall be done for each plant where the plywood or particleboard is surface-finished.
- ii. To certify plywood or particleboard, the testing laboratory shall witness or conduct the air chamber test specified in §3280.406(b) on randomly selected panels initially and at least quarterly thereafter.
- iii. The testing laboratory must approve a written quality control plan for each plant where the particleboard or plywood is finished. The quality control plan must be designed to assure that all panels comply with paragraph (d) of this section. The plan must establish ongoing procedures to identify increases in the formaldehyde emission characteristics of the finished product resulting from the following changes in production
 - 1. In the case of plywood or particleboard:

- a. The finishing or top coat is changed and the new finishing or top coat has a greater formaldehyde content; or
 - b. The amount of finishing or top coat used on the panels is increased, provided that such finishing or top coat contains formaldehyde.
- iv. The testing laboratory shall periodically visit the plant to monitor quality control procedures to assure that all certified panels meet the standard.
- v. To maintain its certification, plywood or particleboard must be tested by the air chamber test specified in §3280.406(b) whenever one of the following events occurs:
 - 1. In the case of particleboard or plywood, The finishing or top coat is changed and the new finishing or top coat contains formaldehyde; or
 - 2. In the case of particleboard or plywood, The testing laboratory determines that an air chamber test is necessary to assure that panels comply with paragraph (d) of this section.
- vi. In the event that an air chamber test measures levels of formaldehyde from plywood or particleboard in excess of those permitted under paragraph (d) of this section, then the tested product's certification immediately lapses as of the date of production of the tested panels. No panel treated on the same date as the tested panels or on any day thereafter may be used or certified for use in manufactured homes.

1. Provided, however, that a new product certification may be obtained by testing randomly selected panels which were produced on any day following the date of production of the tested panels. If such panels pass the air chamber test specified in §3280.406(b), then the plywood or particleboard produced on that day and subsequent days may be used and certified for use in manufactured homes.
2. Provided further, that plywood or particleboard treated on the same day as the tested panels, and panels treated on subsequent days, if not certified pursuant to paragraph (d)(2)(vi)(1) of this section, may be used in manufactured homes only under the following circumstances:
 - a. Each panel is treated with a scavenger, sealant, or other means of reducing formaldehyde emissions which does not adversely affect the structural quality of the product; and
 - b. Panels randomly selected from the treated panels are tested by and pass the air chamber test specified in §3280.406(b).
- vii. *Panel identification.* Each plywood and particleboard panel to be installed in manufactured homes which is bonded or coated with a resin system containing formaldehyde, other than an exclusively phenol-formaldehyde resin system, shall be stamped or labeled so as to identify the product manufacturer, date of production and/or lot number, and the testing laboratory certifying compliance with this section.

(e) Finished good certification label. Each manufactured home must be provided with a finished good certification label indicating that the home has been produced with panels or products that comply with the maximum formaldehyde emission requirements of this Part and 40 CFR Part 770.

(f) Non-complying lots. Refer to 40 CFR § 770.22.

§ 3280.309 Health Notice on formaldehyde emissions. Deleted.

* * * * *

§ 3280.406 Air chamber test method for certification and qualification of formaldehyde emission levels.

(a) Refer to 40 CFR §§ 770.15, 770.20, and 770.24.

(b) For materials treated after certification as stated in § 3280.308(d):


(1) *Preconditioning.* Preconditioning of plywood or particleboard panels for air chamber tests shall be initiated as soon as practicable but not in excess of 30 days after the plywood or particleboard is produced or surface-finished, whichever is later, using randomly selected panels.

i. If preconditioning is to be initiated more than two days after the plywood or particleboard is produced or surface-finished, whichever is later, the panels must be dead-stacked or air-tight wrapped until preconditioning is initiated.

ii. Panels selected for testing in the air chamber shall not be taken from the top or bottom of the stack.

(2) *Testing.* Testing must be conducted in accordance with the Standard Test Method for Determining Formaldehyde Levels from Wood Products Under Defined Test Conditions Using a Large Chamber, ASTM E 1333-96 (2002), with the following exceptions:

- i. The chamber shall be operated indoors.
- ii. Plywood and particleboard panels shall be individually tested in accordance with the following loading ratios:
 1. Plywood— $0.29 \text{ Ft}^2/\text{Ft}^3$, and
 2. Particleboard— $0.13 \text{ Ft}^2/\text{Ft}^3$.
- iii. Temperature to be maintained inside the chamber shall be 77° plus or minus 2°F .
- iv. The test concentration (C) shall be standardized to a level (C_0) at a temperature (t_0) of 77°F and 50% relative humidity (H_0) by the following formula:


$$C = C_0 \times [1 + A_x (H - H_0)] \times e^{-R(1/t - 1/t_0)} \text{ where:}$$

C = Test formaldehyde concentration

C_0 = Standardized formaldehyde concentration

e = Natural log base

R = Coefficient of temperature (9799)

t = Actual test condition temperature ($^\circ \text{K}$)

t_0 = Standardized temperature ($^\circ \text{K}$)

A = Coefficient of humidity (0.0175)

H = Actual relative humidity (%)

H_O = Standardized relative humidity (%)

The standardized level (C_O) is the concentration used to determine compliance with §3280.308(a).

- v. The air chamber shall be inspected and recalibrated at least annually to insure its proper operation under test conditions.

§ 3280.407 Quality control testing for formaldehyde levels. Refer to 40 CFR §§ 770.20(b).

PART 3282—MANUFACTURED HOME PROCEDURAL AND ENFORCEMENT REGULATIONS

The authority citation for part 3282 continues to read as follows:

1.Authority: 42 U.S.C. 3535(d), 5403, and 5424

1. Add new section 3282.212 to read as follows:

* * * * *

3282.212 TSCA Title VI Recordkeeping Requirements. Manufacturers must maintain bills of lading, invoices or comparable documents that include a written statement from the supplier that the component parts or finished goods are TSCA Title VI compliant for a minimum of three years from the date of purchase.

* * * * *

2. Add new section 3282.257 to read as follows:

* * * * *

3282.257 TSCA Title VI Recordkeeping Requirements. Retailers and distributors must maintain bills of lading, invoices or comparable documents that include a written statement from the supplier that the component parts or finished goods are TSCA Title VI compliant for a minimum of three years from the date of purchase.

DRAFT