DRAFT MINUTES
MHCC STRUCTURE & DESIGN SUBCOMMITTEE MEETING

December 10, 2015

Via Teleconference

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Call to Order

DFO Pamela Beck Danner welcomed the subcommittee and announced that this is a meeting of the Manufactured Housing Consensus Committee (MHCC) Structure and Design Subcommittee and that the meeting notice was published in the November 23, 2015 *Federal Register*, Vol. 80, No., 225. DFO Danner also announced that the December 10, 2015 *Federal Register*, Vol. 80, No. 237, provided notice of the two-year review cycle. Due to the late notice, the deadline for the next review cycle was extended from December 31, 2015 to March 31, 2016. The next cycle will begin in 2017.

The Chairman, David Tompos, called the meeting to order at 1:02 p.m. (Eastern). 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 attendees.

Approval of the Minutes

Motion to approve the July 15, 2015 MHCC Structure and Design Subcommittee Meeting Minutes.

Maker: Steven Anderson Second: Joseph Sadler

The motion carried.

New Business: Review of Referred Logs

(All Log Items are available at www.hud.gov/mhs)

LOG 87: § 3280.112 Hallways.

Chairman Tompos reminded the subcommittee that there already has been a proposal approved by the MHCC that increased hallway widths from 28 to 30 inches in Log 2. Some subcommittee members thought that the hallway width was increased to 32 inches. Mr. Tompos noted that this Log 87 has been tabled in the full committee; waiting for documentation from the NFPA to justify the claims for the reasoning statement. Mr. Tompos stated that he has read studies that state that manufactured homes are as safe, if not safer, than IRC homes. He would like to see a study that states that wider hallways are safer hallways before agreeing to the increased width.

Steven Anderson and John Weldy shared a proposed modification to Log 87 with the subcommittee members (see Appendix B). The language in the proposed change to Log 87 included hallway widths of 32 and 36 inches for single-wide homes and multi-section homes, respectively. Mr. Weldy provided an overview of the proposed modification to Log 87, which includes removing one of the two egress doors as the IRC does not require two egress doors and removes 3280.105(2)(i) because it is antiquated. The requirement of 6-inch stub walls to provide definition of areas (i.e., living room and dining room) should be removed (see example drawing in Appendix B).

Michael Lubliner liked the proposal as this has been an issue for many years; however, he would like to see the justification on single vs. double.

Mark Weiss, MAHRR, urged this issue be tabled until there is more information provided. The bottom line is that this is a baseline performance code, manufacturers are already designing models with wider hallways, but there remains a need for models with narrow hallways for those who cannot afford the additional cost. Unless there is a specific safety concern that widening the hallway fixes, there will be additional cost associated with any change.

Steven Anderson countered that this solution does have the potential for saving money; the separation stub wall in the open floor plan would be removed, and it would remove the potential need for creating an additional door if the two doors are located in the same room. Also, there would be no change to the single-wide.

Mr. Weiss stated that increased hallway widths will eliminate some of the designs that are the most affordable and would remove the lowest cost options for consumers. Dominic Frisina agreed that every time there is an added layer of cost, it has the potential of removing some prospective purchasers from being able to purchase manufactured homes. He stated that his customers are more concerned about the size of the bedrooms and other rooms, rather than the hallway and that he is very hesitant to add any cost to the homes.

John Weldy went on to explain the reasoning for adding language that provides minimum hallway widths for single- vs. double-wide homes. A 36-inch hallway is not practical for a single-wide home. Mr. Weldy suggested that with his proposal, the second door could be cut from the floor plan with the addition of a 36-inch hallway in the double-wide homes. In the IRC only one single egress door is required.

Lois Starkey thanked Messrs. Anderson and Weldy for proposing a creative solution that could be a reasonable compromise.

Jeffrey Legault stated that this solution seems to have a lot of moving parts, that he was unsure about some of the issues, and that he would like more time to review the proposed modification.

Chairman Tompos agreed that the proposed modification is a significant change from the original proposal in Log 87 and that he would like the 30- or 32-inch wide hallways that the committee already approved to continue to be considered. Mr. Tompos was concerned about replacing one safety provision for egress with another without understanding the full ramifications with the possibility of removing a door; however, if the proposal does help, then maybe it should be done.

Motion to postpone Log 87 until the January 2016 MHCC meeting.
Maker: Timothy Sheahan Second: Steven Anderson
Meeting Vote: Unanimously approved.

LOG 115: § 3280.4(ff)(21) Incorporation by Reference

Following a discussion, the subcommittee decided on the following action:

Motion to recommend that the MHCC approve Log 115 as modified.
Maker: Steven Anderson Second: John Weldy
Meeting Vote: Unanimously approved.

Review of Assigned Reference Standards

AISC, Steel Construction Manual

Chairman Tompos stated that he did not believe that the entire standard should be referenced. Instead he recommended that only the specification part of the AISC Manual be referenced and volunteered to review this standard and provide a summary of proposed changes with the purpose of submitting a log item.

Following a discussion on the procedure for moving forward, the subcommittee took the following action:

> **Motion to table until the subcommittee receives more information and a log item from David Tompos.**
> Maker: Steven Anderson Second: David Tompos
> Meeting Vote: Unanimously approved.

Following the meeting, Mr. Tompos did send a follow-up recommendation to the A.O. recommending that the Specification for Structural Steel Buildings-ANSI/AISC 360-10 be considered as an update to the current reference in the Standards.

NER 272 / ESR-1539, National Evaluation Report, Power Driven Staple, Nails and Allied Fasteners for use in All Types of Building Construction

Chairman Tompos informed the subcommittee that the currently referenced standard (NER 272) no longer exists and has been replaced by ESR-1539. He noted that there was a significant change to ESR-1539 in July 2015 version of ESR-1539. The 14, 15, and 16 gage staples have been grouped together and their values have been reduced to the 16 gage staple size (see Table 5 and Table 6 on page 7 and page 8 of the standard, respectively).

Jeffrey Legault and John Weldy stated that this change does affect the designs and they are unsure as how to proceed at this juncture.

Lois Starkey agreed and informed the subcommittee that she just had an update from SENCO. There seems to be no research, calculations, or testing that justify replacing the current NER 272 Standard with the ESR 1539-2015 standard. Adopting this standard in its current form could have a significant impact on every manufactured home built and designed in the future. Industry stakeholders are still trying to determine next steps as some testing and engineering work is needed. Ms. Starkey suggested that HUD might be able to help and that MHI volunteered to assist.

John Weldy stated that he believed the reasoning behind changing to the 16 gage staple was because it has been prescriptively added to the IRC.

The question was raised if the subcommittee could approve the standard prior to the July 2015 version that groups the gage sizes. It was noted that previous versions of ESRs are no longer available to the public, even the 2011 is no longer available. This was a concern for the subcommittee. Richard Mendlen noted that one of the requirements of a reference standard is that it be publically available.

> **Motion to refer NER 272 / ESR-1539 to a task group led by Steven Anderson.**
> Maker: John Weldy Second: Steven Anderson
> Meeting Vote: Unanimously approved.

Task Group Members to include:

John Weldy Mark Weiss
Lois Starkey

APA – H815E, Design & Fabrication of All-Plywood Beam

John Weldy informed the subcommittee that the proposed standard brings in required design values that were only referred to in previous versions of the standard (see the new Table 2 on page 10). Note (a) in Table 2 references *Plywood Design Specification* or *Panel Design Specification* (PDS). Note (b) in Table 2 explains that the modulus of elasticity values have been increased by 10%, which would require all ridge beams to be re-evaluated for allowable deflection requirements and would also require shear and bending deflections to be calculated separately. This is a major change to how the values are presently calculated.

Since this document is a supplement to the *Plywood Design Specification* (PDS), it was suggested that the two APA standards be reviewed together. The subcommittee agreed.

Motion to refer H815 to a task group led by John Weldy.
Maker: John Weldy Second: Steven Anderson
Meeting Vote: Unanimously approved.

Open Discussion

Kevin Kauffman reminded the subcommittee that a log item for each reference standard would be required to proceed.

DFO Danner thanked David Tompos for his leadership and service to the MHCC.

Ms. Danner thanked the subcommittee for their time and reminded task group leaders to prepare for their meetings that will be held during the MHCC meeting in January 2016.

The meeting was adjourned at 3:00 p.m.

APPENDIX A:
Subcommittee Attendees

	Structure & Design 3280 Subpart A, B, C, D, E, J		Attendance
	Name	Email	
Users	Steven T. Anderson	steveanderson@midco.net	Y
	Ishbel Dickens	ishbel@nmhoa.org	N
	Timothy Sheahan	tpsheahan@cox.net	Y
Producers	Greg Scott	gregs@scotbilt.com	N
	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
	David A. Tompos	tompos@ntainc.com	Y

HUD Staff
Pamela Beck Danner, DFO
Teresa Payne
Jason McJury
Richard Mendlen
Patricia McDuffie
Demetress Stringfield

AO Staff, Home Innovation Research Labs
Kevin Kauffman
Tanya Akers

MHCC Members
James Demitrus
Michael Lubliner

Others Participating
Mark Weiss, Manufactured Housing Association for Regulatory Reform
Lois Starkey, Manufactured Housing Institute

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APPENDIX B:
PROPOSED MODIFICATION TO LOG 87

By Steven Anderson and John Weldy

MHCC- Proposal

Date: 6/6/2014 Submitter Name: Steve Anderson Tel. No. 208-646-2017

Company: CMH Manufacturing Inc.

Street Address: 815 Duck Drive, Apt. 417 email: steveanderson@midco.net

1. a) MHCC Document Title/CFR Section Title: Planning Considerations (Egress)/ 24CFR3280.105 Exit facilities; exterior doors
   b) 3280.105(a)(2)(i)

2. Propose revision to 3280.105 (a), deletion of paragraph 3280.105(a)(2)(i) and Revision of 3280.112:

3. **3280.105(a)** Number and location of exterior doors. Manufactured homes shall have a minimum of two exterior doors located remote from each other except a single 34 inch swinging exterior door is permitted in homes with 36 inch halls in accordance with 3280.112 .

   (1) Required egress doors….

   (2) In order for exit door to be considered remote…

   ~~**(i)** Both of the required doors must not be in the same room or in a group of rooms which are not defined by fixed walls.~~

   ~~**(ii)**~~ **(i)** Single wide units. Doors may not be less than 12 ft. c-c from each other as measured in any straight line direction regardless of the length of path of travel between doors.

   ~~**(iii)**~~ **(ii)** Double wide units. Doors may not be less than 20 ft. c-c from each other as measured in any straight line direction regardless of the length of path of travel between doors.

   ~~**(iv)**~~ **(iii)** One of the required exit doors must …

   3280.112 Hallways shall have a minimum horizontal dimension of ~~32~~ **36 inches measured from the interior finished surface to the interior finished surface of the opposite wall for multi-section homes and 32 inches for a single wide home.** When appliances are installed in a laundry area, the measurement shall be from the front of the appliance to the opposite finished interior surface. When appliances are not installed and a laundry area is provided, the area shall have a minimum clear depth **of ~~32~~ 35 inches in addition to the ~~28~~ 36 inches required for passage in a multi-section home and a clear depth of 31 inches in addition to the 32 inches for a single wide home.** In addition, a notice of the available clearance for washer/dryer units shall be posted in the laundry area. Minor protrusions into the minimum hallway width by doorknobs, trim, smoke alarms or light fixtures are permitted.

4. **Statement of Problem and Substantiation for Proposal:**

   Concerning revision of 3280.105(a): Proposal is consistent with International Residential Code which states: *"Egress Door. Not less than one egress door shall be provide for each dwelling unit."*- 2015 IRC R311

   Concerning deletion of3280.105(a)(2)(i): At the time the MHCSS was written, dwelling floor plans consisted of rooms normally well defined by walls. However, in today's market, families

desire more open floor plans so that the whole family can be together no matter which room they're using. The housing market demands open floor plans with rooms which are not defined by walls. Current interpretation of code requires a minimum of a 6" long full height wall segment to be installed within open floor plans in order to meet the "not in the same room or in a group of rooms which are not defined by fixed walls" requirement. Homeowners do not want these stub wall obstructions in their homes which provide no advantage in fire safety. Furthermore, the current language increases liability since room division is not defined within 3280 and therefore the 6" wall segment which is currently accepted by interpretation of this section is subject to legal dispute.

Substantiation: An interior wall as defined within MHCSS and as interpreted by monitoring agency does not improve fire safety. Furthermore, the International Residential Code (IRC) as adopted by nearly all States does not require two egress doors, but rather only requires a single egress door:

Concerning revision of 3280.112: The 2012 edition of the International Fire Code (IFC) calls for a minimum width for hallways within a dwelling unit of 36 inches. The 2012 edition of the International Building Code (IBC) calls for a minimum hallway width of 36 inches for a single family home. Our industry markets itself as being equivalent to or better than site built construction. Permitting these narrow access and egress corridors does not make these homes equal. The typical complaint cited comments include but are not limited to difficulty in moving furniture in and out of rooms accessed by these corridors, traffic problems when these hallways are used by more than one person at a time, and the inability to adequately use temporary or permanent ambulation assistance equipment such as canes, crutches, walkers, wheelchairs, and the like. This change is specific to design of the space and should have no impact on cost of each unit.

5. Statement is original proposal.

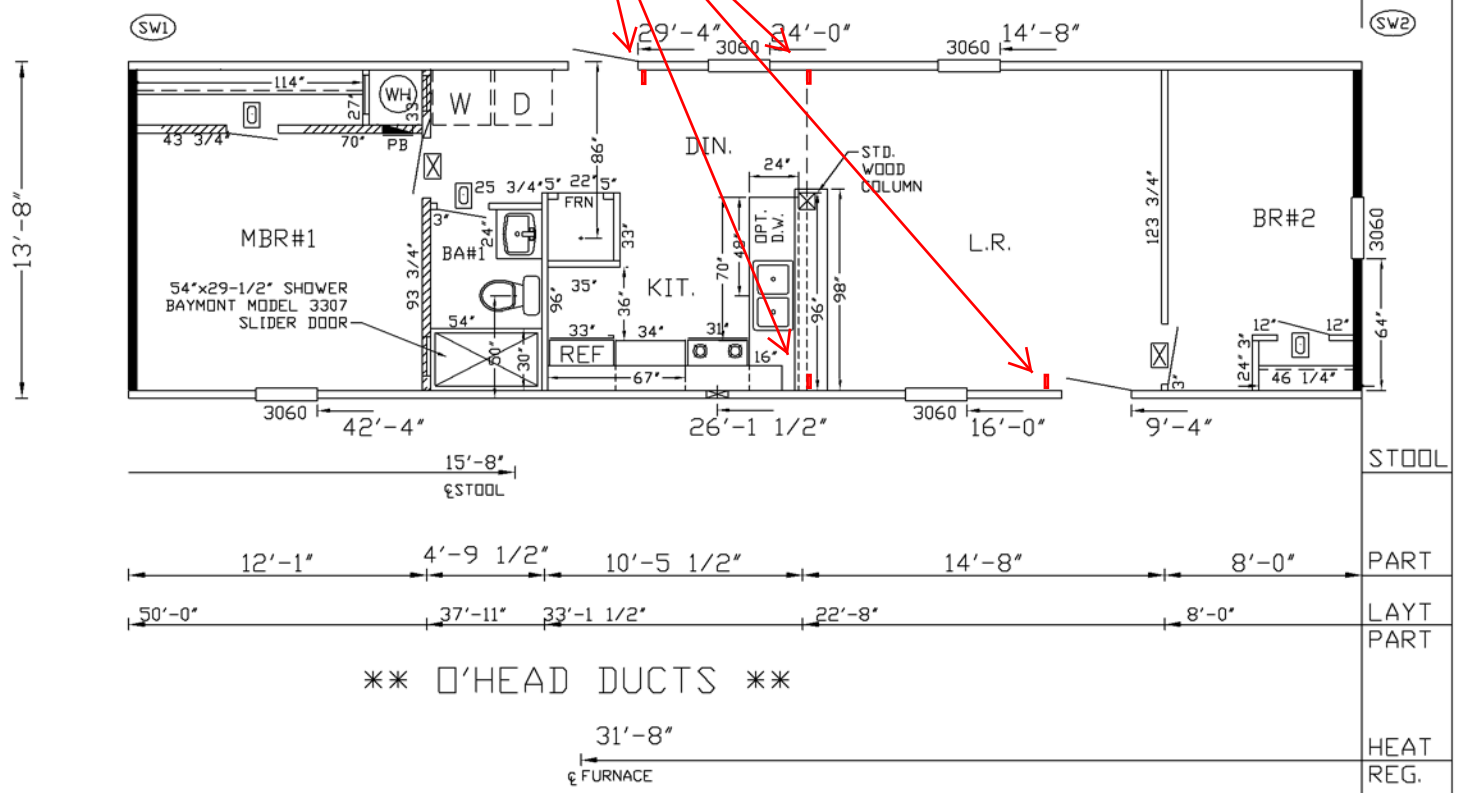
6. Cost/Benefit Information: This proposal does not pretend to be of any financial benefit – with regards to cost savings in the construction of the homes. Instead, the benefit comes from making the homes safer and the potential loss of life lessened. The question regarding cost savings comes from the problem of defining the worth of human life. To me, the cost is high – others have a different point of view.

7. Floor plan example with IBTS interpretation of room separation has been provided as additional substantiating document.

05/05/2015
6:22PM

NTA recently received a deviation from HUD, and was unsuccessful in disputing it concerning floor plans similar to this one
HUD is insisting that a full height at one of the locations show in order to provide a 'seperation' between the exterior doors.

Suggested wall locations



** LOW-E WINDOWS **

THIS PRINT MAY BE USED FOR BOTH
7'-0" & 8'-0" SIDEWALLS
REF. SW-15.8 FOR 8'-0" SIDEWALLS
FOR JOISTS AND LAGS

C:\ACADSER\66660.dwg

* ALL FACTORS MINIMUM

WIND ZONE	I	II	III
SHEAR WALL #1	210 PLF @ 7'-2"	N/A	N/A
SHEAR WALL #2	210 PLF @ 7'-2"	N/A	N/A
SHEAR WALL #3	N/A	N/A	N/A
SHEAR WALL #4	N/A	N/A	N/A
SHEAR WALL #5	N/A	N/A	N/A
SHEAR WALL #6	N/A	N/A	N/A
SHEAR WALL #7	N/A	N/A	N/A

EB-10 FURNACE

▨ = 4" WALL
⊠ = 29 1/4" DOOR
▯ = 25 1/4" DOOR