



## 24 CFR Parts 3280, 3282, and 3285

[Docket No. FR-6149-F-02]

RIN 2502-AJ49

### Manufactured Home Construction and Safety Standards

**AGENCY:** Office of the Assistant Secretary for Housing-Federal Housing Commissioner, HUD.

**ACTION:** Final rule.

**SUMMARY:** This final rule amends the Federal Manufactured Home Construction and Safety Standards (the Construction and Safety Standards) by adopting recommendations made to HUD by the Manufactured Housing Consensus Committee (MHCC), as modified by HUD. The National Manufactured Housing Construction and Safety Standards Act of 1974 (the Act) requires HUD to publish in the proposed revised Construction and Safety Standards submitted by the MHCC. The MHCC prepared and submitted to HUD its third group of recommendations to improve various aspects of the Construction and Safety Standards. HUD reviewed those recommendations and adopted some of them after making editorial revisions and some additions. This final rule further revises the Construction and Safety Standards based on HUD's review and incorporation of certain public comments.

**DATES:** Effective Date: **[Insert date 60 days after publication in the FEDERAL REGISTER]**. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of [INSERT date 60 days after publication in the *Federal Register*]. The incorporation by reference of certain other publications listed in the rule was approved by the Director of the Federal Register as of August 11, 1987.

**FOR FURTHER INFORMATION CONTACT:** Teresa B. Payne, Administrator, Office of Manufactured Housing Programs, Office of Housing, U.S. Department of Housing and Urban

Development, 451 7th Street, SW, Washington DC 20410; telephone 202-402-5365 (this is not a toll-free number). Persons with hearing or speech impairments may access this number via TTY by calling the Federal Information Relay Service at 800-877-8389 (this is a toll-free number).

## **SUPPLEMENTARY INFORMATION:**

### **I. Background**

The National Manufactured Housing Construction and Safety Standards Act of 1974 (42 U.S.C. 5401-5426) (the Act) authorizes HUD to establish and amend the Federal Manufactured Home Construction and Safety Standards (the Construction and Safety Standards) codified in 24 CFR part 3280. The Act was amended in 2000 by the Manufactured Housing Improvement Act of 2000 (Pub. L. 106-569, approved December 27, 2000) which established the Manufactured Housing Consensus Committee (MHCC), a consensus committee responsible for providing HUD recommendations to adopt, revise and interpret the Construction and Safety Standards. HUD's Construction and Safety Standards apply to the design, construction, and installation of new homes. Changes to the collective standards are not retroactively enforced by HUD as applicable to previously designed, built, and installed homes.

As amended, the purposes of the Act (enumerated at 42 U.S.C. 5401) are: “(1) to protect the quality, durability, safety, and affordability of manufactured homes; (2) to facilitate the availability of affordable manufactured homes and to increase homeownership for all Americans; (3) to provide for the establishment of practical, uniform, and, to the extent possible, performance-based Federal construction standards for manufactured homes; (4) to encourage innovative and cost-effective construction techniques for manufactured homes; (5) to protect residents of manufactured homes with respect to personal injuries and the amount of insurance costs and property damages in manufactured housing consistent with the other purposes of this section; (6) to establish a balanced consensus process for the development, revision, and interpretation of Construction and Safety standards for manufactured homes and related

regulations for the enforcement of such standards; (7) to ensure uniform and effective enforcement of Construction and Safety standards for manufactured homes; and (8) to ensure that the public interest in, and need for, affordable manufactured housing is duly considered in all determinations relating to the Federal standards and their enforcement.”

In addition, the amended Act generally requires HUD to establish Construction and Safety Standards that are reasonable and practical, meet high standards of protection, are performance-based, and are objectively stated. Congress specifically established the MHCC to develop proposed revisions to the Construction and Safety Standards. The Act provides specific procedures (42 U.S.C. 5403) for the MHCC process.

The MHCC held its first meeting in August 2002 and began work on reviewing possible revisions to the Construction and Safety Standards. As the MHCC proceeded, proposed revisions to the Construction and Safety Standards were divided into sets. The first set of revisions proposed by the MHCC was published as a final rule in the *Federal Register* on November 30, 2005 (70 FR 72024). The second set of revisions proposed by the MHCC was published as a final rule published in the *Federal Register* on December 9, 2013 (78 FR 73965). This final rule is based in part on the third set of MHCC proposals to revise the Construction and Safety Standards published as a proposed rule in the *Federal Register* on January 31, 2020 (85 FR 5589). The proposed rule included a MHCC proposal to revise the Construction and Safety Standards to reduce the regulatory burden by eliminating the need for manufacturers to obtain special approvals from HUD for certain construction features and options. HUD reviewed the MHCC’s proposals and made editorial revisions prior to publishing the January 31, 2020, proposed rule. HUD also added proposals that complement the MHCC’s recommendations.

As explained in the January 31, 2020, proposed rule, HUD decided not to include certain MHCC recommendations due to pending regulations for improving energy efficiency in manufactured homes being prepared by the U.S. Department of Energy (DOE) under the Energy Independence and Security Act (Pub. L. 110-140, approved December 19, 2007) (EISA). DOE

published a Notice of Proposed Rulemaking on June 17, 2016 (81 FR 39756) and, more recently, a Notice of Data Availability, Request for Information on August 3, 2018 (83 FR 38073) regarding energy conservation standards for manufactured housing. Given this DOE rulemaking, HUD decided to postpone action on MHCC-proposed revisions to §§ 3280.502 and 3280.506(b), except for the mating wall of attached manufactured homes at § 3280.506(b)—an option that is needed to avoid a more burdensome alternative approval process (24 CFR 3282.14—Alternative construction of manufactured homes). HUD also decided not to move forward with a new proposal to add requirements for draftstopping to the Construction and Safety Standards. HUD will not include or move forward with these recommendations in this final rule.

## **II. Changes Made at the Final Rule Stage**

In consideration of the public comments and HUD's experience implementing the program, HUD has made certain editorial revisions to HUD's proposals made in the January 31, 2020, proposed rule. In general, the revisions adopt changes to the codified regulations that reinforce the Act's purposes, namely providing benefits to consumers, homeowners, and the broader community; promoting and improving consumer and home safety; reducing regulatory barriers and expanding consumer options; and allowing use of some for the latest building technologies and materials while creating more consistency with State-adopted residential building codes. HUD declined to adopt some standards or commenters' suggested changes in some instances based on considerations of the statutorily prescribed MHCC process, the lack of authority under the Act for HUD to regulate design and construction of certain types of housing, and consumer safety.

The final rule will revise certain sections of the Construction and Safety Standards, as well as the incorporated reference standards where indicated. The revisions described below are based on HUD's review and consideration of the public comments on the proposed rule, HUD's experience with the program, the existent Construction and Standards, and the issues raised in

the proposed rule. The final rule also makes minor technical edits to the Construction and Standards.

#### § 3280.5 Data Plate.

HUD revised § 3280.5 by revising paragraph (d), pursuant to public comments, to streamline data entry. Paragraph (d) now reads, “(d) This manufactured home IS designed to accommodate the additional loads imposed by the attachment of an attached accessory building or structure in accordance with the manufacturer installation instructions. The additional loads are in accordance with the design load(s) identified on this Data Plate; or This manufactured home IS NOT designed to accommodate the additional loads imposed by the attachment of an attached accessory building or structure in accordance with the manufacturer installation instructions.” The appropriate designation may be made while still setting forth information that may be used by state and local authorities that have enforcement authority for site-built structures that are not integral to the manufactured home produced and shipped by the manufactured home manufacturer. HUD seeks to preclude a home from being taken out of compliance when an attached accessory building or structure is built and added on at the home site.

#### § 3280.108 Interior Passage.

HUD revised paragraph (c) in this section in accordance with the public comments by creating an exception to the requirement for doors to closets, pantries, and doors to toilet compartments in single-section homes. Single-section manufactured homes have a smaller living space when compared with a multi-section manufactured home or a typical site-built home and, thus, closet and pantry doors should not be subject to the same clear opening requirements as a multi-section manufactured home or a typical site-built home.

#### § 3280.114 Stairways.

HUD adjusted the rise and run dimensions based on public comment. The changes recommended by public commenters on the proposed rule will give manufacturers more

flexibility when trying to balance the smaller form-factor of most homes with consumer demand for multiple stories. The edits clarify that the standards do not apply to exterior stairways that are built at the home site or stairways to basement areas that are not designed and built as part of the manufactured home.

#### § 3280.209 Smoke Alarm Requirements.

While HUD did not revise this section in the proposed rule, a public commenter recommended that combination smoke and carbon monoxide alarms be added as acceptable devices to parallel the International Residential Code (IRC). Furthermore, the changes to this section are intended to work in conjunction with the changes to § 3280.211.

#### § 3280.211 Carbon Monoxide Detectors.

“Alarms” and “detectors” are different items that serve different purposes. HUD changed references from “detector” to “alarm” in response to public comment. HUD also revised this section to include specific locations where such items must be installed rather than just referencing the more general standards, such as the National Fire Protection Association Standard 720.

#### § 3280.212 Factory constructed or site-built attached garages.

Public commenters suggested that the distinction between attached and self-supported structures be emphasized in this section. HUD clarified that paragraph (a) applies only to garages which are not self-supported and revised the fire separation requirements in paragraph (c), including that the garage must be separated from the home with appropriate gypsum wallboard or equivalent. HUD also added paragraph (h) as suggested by public comment to include that a site-built, self-supported garage is considered an add-on subject to § 3282.8(j)(1) and state and local authorities.

#### § 3280.213 Factory constructed or site-built attached carports.

Similar to the previous section, public commenters also suggested that the distinction between attached and self-supported structures be emphasized in this section. HUD made

several changes to this section based on public comment, including adding a provision in paragraph (b) that the manufacturer may provide the maximum live and dead loads, and the applied loading locations that the home is designed to resist from the carport, and other design limitations or restrictions.

§ 3280.504 Condensation control and installation of vapor retarders.

Based on public comment, HUD clarified the distinction between mating walls and fire separation walls in paragraph (b), stating that the fire separation wall between each attached manufactured home must be considered to be an exterior wall pursuant to subpart K.

§ 3280.609 Water distribution systems.

In order to better protect residents, HUD added relief pipe turndown requirements to this section based on public comment, stating that exterior relief drains shall be directed down and shall terminate between 6” and 24” above finished grade. This is high enough to prevent backflow, but low enough to reduce the risk of injury or accident.

§ 3280.705 Gas piping systems.

HUD eliminated “hard pipe” in paragraph (I)(8)(iii), to account for a flex gas connector rather than a quick-disconnect.

§ 3280.710 Venting, ventilation, and combustion air.

HUD clarified that the placement restrictions apply to exhausts of fuel burning appliances and used the defined term “habitable rooms” in this section. This provides consistency across the regulation.

§ 3280.904 Specific requirements for designing the transportations system.

In addition to some language and grammatical changes, HUD added a requirement to check weights with the home in a level position ready for transport in paragraph (b)(4)(ii), an explicit reference to the Department of Transportation’s regulations at 49 CFR § 393.52(d) in paragraph (b)(9)(ii) regarding stopping distance, and textual changes to paragraph (b)(9)(iii) regarding electrical brake wiring.

### § 3280.1002 Definitions.

In this section, HUD edited the definition of “Fire separation wall” to emphasize the separation between attached manufactured homes.

### § 3280.1003 Attached manufactured home unit separation.

HUD clarified this section based on public comment, particularly in paragraph (a)(1) related to fire resistance. These edits will help HUD address minimum fire separation requirements for common walls of attached manufactured housing solutions in the Standards.

## **III. The Public Comments**

The public comment period for the January 31, 2020, proposed rule closed on March 31, 2020. HUD received forty-one (41) public comments in response to the proposed rule, from various manufactured home associations, non-profit organizations, and other interested parties. This section presents the significant issues, questions, and suggestions submitted by public commenters, and HUD’s responses to these issues, questions, and suggestions.

Most commenters supported updates to the Construction and Safety Standards, and encouraged HUD to continue working on updates to, and provided specific recommendations for, certain sections of the Construction and Standards. For example, several commenters supported adding two-family or two- and three-family dwelling units to the new Subpart K, Attached Manufactured Homes and Special Construction. Some commenters also suggested deleting or removing certain changes proposed by HUD. For example, some commenters opposed or requested clarification of HUD’s proposed changes to stair rise and run requirements, and suggested changes to create consistency among the Standards’ landing requirements and clarify whether certain requirements apply to stairs inside, or inside and outside, the home.

The following sections summarize the comments received on the proposed rule and HUD’s responses:

### General Support



The majority of commenters expressed general support for the proposed changes as part of HUD's effort to update the Construction and Safety Standards. These commenters stated that the proposed changes would benefit homeowners and the broader community, promote or improve consumer and home safety, allow use of the latest building technologies and materials, create more consistency with State-adopted residential building codes for site-built housing, expand consumer amenity options (including attached garages, carports, decks and accessory buildings), help to include two-story and multifamily guidelines, and eliminate regulations that impede broad access to affordable housing. Several commenters also urged HUD to move forward with publishing the next set of proposed updates to address outstanding items.

**HUD Response:** HUD agreed with the commenters that the proposed changes would provide benefits to consumers, homeowners, and the broader community, and help promote the other purposes and policies of the National Manufactured Housing Construction and Safety Standards Act of 1974.

*Comment: Testing requirements should be included but be accredited to ISO/IEC 17025 or 17020 by accredited testing laboratories that are signatories to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA).*

One commenter stated that several parts of the proposed rule reference testing, such as American Society for Testing and Materials, Standard Test Methods for Fire Tests of Building Construction and Materials (ASTM E 119), and recommended that these laboratory tests be conducted by ISO/IEC 17025 accredited testing laboratories so as to be assured that the testing results are generated by an entity that has been found to be technically competent by an independent, accreditation body. Two commenters supported testing requirements, but recommended that these laboratory tests be accredited to ISO/IEC 17025 or 17020 by accredited testing laboratories that are signatories to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA), to assure that the testing results are generated by an entity that has been found to be technically competent by an independent accreditation

body. One commenter added that this would allow HUD to focus resources on program oversight and/or research for technical advancements. The commenter provided a link to an example of effective models whereby government agencies rely on ISO/IEC 17020 accreditation programs (<https://www1.nyc.gov/site/buildings/industry/recognized-accrediting-bodies.page>).<sup>1</sup>

**HUD Response:** HUD disagreed with the commenters. HUD’s regulations at 24 CFR 3280.2 require products to be listed, certified, or labeled by a nationally recognized testing laboratory, inspection agency, or other organization concerned with product evaluation that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling indicates compliance with nationally recognized standards or tests to determine suitable usage in a specified manner. HUD also believed that this recommendation should be submitted for MHCC review and consideration, that it is not appropriate for HUD to integrate these changes at this final rule stage, and the commenter should make the proposal through the MHCC process through the following website: <http://mhcc.homeinnovation.com/>.<sup>2</sup>

*Comment: HUD should adopt universal design standards.*

A commenter who identified as a person with a disability recommended that HUD adopt universal design standards in manufactured home construction and encourage communities and housing agencies to do likewise.

**HUD Response:** HUD appreciated the commenter’s perspective that HUD adopt universal design standards. While HUD is fully supportive of the need for affordable and accessible housing, it noted that universal design can be accomplished within the minimum Construction and Safety standards requirements already codified. Further, many home manufacturers currently offer homes designed and constructed to meet universal design standards without conflicting with HUD’s current minimum standards.

### General Opposition

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<sup>1</sup> NYC Buildings, *Recognized Accrediting Bodies*, NYC.GOV, <https://www1.nyc.gov/site/buildings/industry/recognized-accrediting-bodies.page> (last visited April 20, 2020).

<sup>2</sup> Manufactured Housing Consensus Committee, MHCC Proposed Change Form, <http://mhcc.homeinnovation.com/>.

Some commenters stated that the several of the provisions proposed would increase manufactured home installers' liability and responsibility if the proposed rule is advanced without significant change. The commenters stated home installers were not included in deliberations, and, as such, HUD should not move forward with this rule.

**HUD Response:** HUD disagreed with the commenter that manufactured home installers were not included in deliberations. The MHCC membership has included and continues to include representation from at least one individual with manufactured home installer interest. The MHCC process is administered in an open format in which any member of the public, including manufactured home installers, may participate and address the Committee, as well as propose changes for MHCC review. All such meetings are published in the *Federal Register* at least 30 days in advance of meetings.

*Comment: Manufacturer Documentation.*

One commenter stated that the proposed rule's requirements for the manufacturer to provide documentation poses problems, because HUD does not require inspection agencies to check any of the documents the manufacturer provides in the home. The commenter stated this situation resulted from HUD's Interpretative Bulletin H-1-77,<sup>3</sup> which the commenter asserted complicates several proposed changes, namely those at §§ 3280.212, 3280.213, 3280.612, and 3280.709. The commenter stated that if the proposed rule becomes final, HUD should rescind Interpretive Bulletin H-1-77 to account for the installation program loophole and the failure to provide assurance that the proper documentation would be shipped with the home. Another commenter stated a concern with potential liability for installation work related to accessory buildings and other on-site installation, such as certain appliances the proposed rule states can be shipped "loose" to the homesite. According to the commenter, to ensure that the end buyer or

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<sup>3</sup> U.S. Department of Housing and Urban Development, *PIA Responsibility for Documents Required to be Provided with the Mobile Home*, HUD.GOV, <https://www.hud.gov/sites/dfiles/OCHCO/documents/EIB-H-1-77.pdf>.

resident of the home has a home that has been safely manufactured, transported, and installed, it is vital that all installation documentation is shipped with and remains with the home.

**HUD Response:** HUD is aware that standards for some construction features that are addressed in this rulemaking affect the installation process and therefore impact the responsibilities of home installers. All construction features included in this final rule were previously available through the Alternative Construction process and in all instances where an Alternative Construction letter had been issued, HUD required specific documentation to be provided with each affected manufactured home, including installation instructions. The same or similar documentation would continue to be required pursuant to the requirement for manufacturers to provide installation instructions in accordance with 24 CFR 3280.306(b) and 24 CFR 3285.2. Further, the home manufacturer instructions must provide minimum installation specifications so that the home is not taken out of compliance with the Construction and Standards and meets the Model Manufactured Home Installation Standards. These instructions are reviewed and approved by HUD-approved Design Approval Primary Inspection Agencies (DAPIA) and manufacturers are required to provide the instructions with each manufactured home.

HUD also disagreed with the commenter that requiring the manufacturer to provide the instructions, without requiring an inspection to verify the instructions are shipped with the home, complicates matters or otherwise poses risks to consumer health and safety. The manufacturers' installation instructions and documentation are required to be reviewed and approved by its DAPIA to help ensure conformance. Further, it is the manufacturers' responsibility to ensure that each home is provided with installation instructions and associated documentation as approved by its DAPIA. DAPIA-approved quality assurance manuals typically require manufacturer verification for the shipment of the installation instructions. It is the IPIA's responsibility to ensure the effectiveness of the quality assurance manuals. HUD may review and reconsider this matter further should evidence showing appropriate installation instructions are not being shipped with manufactured homes. The commenter(s) should submit proposed regulatory text

through the MHCC process at <http://mhcc.homeinnovation.com/> so that the matter is reviewed by the MHCC.<sup>4</sup>

*Comment: HUD should not use sub-regulatory guidance to establish Construction and Safety standards.*

A commenter stated that HUD should repudiate the use of sub-regulatory “guidance” or “field guidance” memoranda and documents to establish de-facto manufactured housing “standards.”

**HUD Response:** HUD is currently implementing Executive Order 13891, Promoting the Rule of Law Through Improved Agency Guidance Documents,<sup>5</sup> and this comment is not applicable to any aspect addressed in this rulemaking.

*Comment: HUD should not provide competitive advantage to any housing type.*

Another commenter expressed concern regarding any policy that may give one housing type an unwarranted competitive advantage and risks the occupants’ health and safety. The commenter stated HUD should refrain from making any changes that would result in furthering the divide between the code requirements for manufactured homes and those that apply to homes that are stick-built or built using engineered building systems. The commenter urged HUD to maintain this balance and continue to facilitate consumer choice by ensuring that regulatory reform efforts do not favor manufactured homes over other residences, leading to consumer confusion and unfair marketplace competition.

**HUD Response:** HUD’s authority to develop and implement standards is applicable only to homes meeting the statutory definition of a manufactured home. However, this rulemaking brings the Standards in closer alignment to standards imposed for other types of housing.

*Comment: HUD has no authority to establish standards for structures attached to a manufactured home.*

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<sup>4</sup> Manufactured Housing Consensus Committee, MHCC Proposed Change Form, <http://mhcc.homeinnovation.com/>.

<sup>5</sup> 84 FR 55235 (Oct. 15, 2019).

A commenter stated that HUD defined “manufactured housing” narrowly in § 3280.2 to mean a structure built on a permanent chassis and designed to be used as a dwelling. The commenter stated that while HUD has authority to establish requirements applicable to components within the chassis, it does not have the authority to establish standards for items outside or apart from the chassis. Rather, authority to regulate these structures rests with state and local authorities and their building code requirements and inspection protocols. “Add-on or accessory buildings or structures” are not built on a permanent chassis. Section 3285.903 provides conditions where add-on or attached accessory buildings or structures may be installed, but again fails to designate inspection responsibilities. The definition for “Attached accessory building or structure” proposed for addition to §§ 3280.2 and 3285.5 further adds to the confusion indicating that it includes such items when they are designed for attachment and structural support from the manufactured home.

**HUD Response:** HUD’s standards developed and implemented through this rulemaking are not intended to apply to the design and construction of site-built structures, including add-ons (in other words, the site-built garage, or the site-built carport). However, the standards and regulations established through this rulemaking do apply to the design and construction of the manufactured home, when the home is designed to have an attached accessory structure, such as the garage, carport, or similar add-on. The requirements established are to ensure that the manufactured home will continue to comply with the Construction and Safety Standards and that the residents’ health and safety will be protected through means such as adequate structural load design and minimum fire separation and other requirements when applicable. The design, construction, and inspection of the attached accessory structure (site-built garage, site-built carport, or other site-built add-on) remains subject to any applicable state and or local requirements.

#### Subpart A, General

#### § 3280.2 Definitions.

One commenter opposed the definition change to “attached accessory building or structure,” while another commenter supported the proposed changes. Some commenters stated that proposed definition of “Attached accessory building or structure” fails to include stairs, which are needed for entry in almost every manufactured home.

One commenter further stated that the proposed rule would require that the “basic manufactured home” be designed for the attachment of these structures. This does not address the need for the manufacturers to modify their installation instructions to reflect the added weight and wind load that added structures would impose on the home’s foundation.

Another commenter stated that the definition appears to open the flood gates for other additions to a manufactured home which can affect egress requirements as well as alter the electric, heating, plumbing and other systems. The commenter provided examples; awnings, porches, and ramadas typically are identified as a covered area projecting in front of an entrance, while cabanas are defined as a cabin, hut, or shelter, and garages are defined as a “building” for housing a motor vehicle. The commenter stated that these are totally separate structures which affect the home differently and can create safety hazards. The commenter suggested that the proposal should be rewritten, and garages should be addressed separately.

A commenter stated that the term “basic manufactured home” is not defined and pre-supposing that there is such a thing as a “non-basic manufactured home.” If this is the case, HUD should clearly indicate what they mean by these terms and how the construction and safety standards would apply. The commenter contended that regardless of HUD’s differentiation in this case, the manufactured housing Construction and Safety standards should be applied consistently and any manufactured home, whether deemed “basic” or “non-basic” be clearly marketed as a manufactured home to avoid customer confusion and an expectation of the product being received.

**HUD Response:** HUD disagreed with commenters stating that HUD should establish requirements for stairs external to the manufactured home, which are needed for entry in most

manufactured homes. HUD's established standards only govern the design and construction of the manufactured home, including all provisions addressed by this rulemaking. Requirements for external stairs that are necessary to provide entry to the homes remain subject to design and construction requirements of state and local jurisdictions as they are not intended to increase the living or storage area of the manufactured home and are dependent upon the siting and installation of each individual home which may vary by model, lot size, topography, and other aspects.

HUD agreed with the commenter stating that the proposed rule would require that the manufactured home be designed for the attachment of these site-built structures. However, HUD disagreed that the manufacturer would not be required to provide installation instructions that reflect the added weight and wind load that an added structure would impose on the home's foundation. HUD's standards, set forth at § 3285.903, require accessory structures to be structurally independent unless the attached accessory building or structure is otherwise included in the installation instructions or designed by a registered professional engineer or registered architect. Further, the changes to the Data Plate specifically identify when the home is designed for an attached accessory structure, and if so, the loads the home has been designed to accommodate (see § 3280.5).

HUD disagreed with the comment suggesting that the definition of accessory building or structure is too broad. The Construction and Safety standards address the design and construction of the manufactured home and do not address the design, construction, placement, or other standards for the design and construction of the accessory structure(s). Further, state and local authorities may verify that a home has been designed for an attached accessory structure by verifying such information available on the Data Plate. HUD agreed with the commenter that the term "basic manufactured home" is not defined; therefore, "basic" has been removed.

§ 3280.5 Data Plate.



One commenter opposed the proposed rule's changes to the Data Plate language and another commenter supported the proposed changes. Some commenters agreed, however, that certain modifications to the Data Plate definition should be made: the Data Plate indicates whether the home is designed to accommodate an add on, accessory building, and the like, and the Data Plate and other documentation should document the weight, size, and other limits the manufactured home can support. Failure to require additional information will lead to confusion and result in many homes being stressed beyond their designs limits and therefore lead to structural failure. Another commenter stated that the manufacturer should be required to identify the maximum loads applied to the floor system, wall system, roof system and support system.

Another commenter suggested HUD delete the first paragraph of the applicable statement in § 3280.5(d). This and another commenter recommended HUD revise the second paragraph to include a checkbox for "is" or "is not" similar to current language for § 3280.5(g) to reduce language and clutter on home Data Plates. One commenter explained that this alternative would still capture the intent of HUD's proposal, while preserving space on the Data Plate for future statements or other required disclosures. The commenters proposed significant changes to HUD's proposed regulatory text.

**HUD Response:** HUD considered all comments received on the requirements for the Data Plate and made minor changes to reflect and accommodate some of the comments. Through the language on the Date Plate, HUD is trying to provide information to the consumers, retailers, installers, and local authorities about the design and construction of the home that may help prevent a home from being taken out of compliance when an attached accessory building or structure is built and added on at the home site. Further, the Data Plate provides information that may be used by state and local authorities that have enforcement authority for site-built structures that are not integral to the manufactured home produced and shipped by the manufactured home manufacturer.

Subpart B, Planning Considerations

One commenter stated that HUD proposed to adopt a superseded MHCC recommendation concerning ventilation. HUD has proposed to authorize manufacturers' compliance with the 2010 edition of American Society of Heating, Refrigeration, and Air-Conditioning Engineers ("ASHRAE") Standard 62.2, "Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings," as an alternative to the prescriptive ventilation requirements in § 3280.103(b) and (c). The proposed rule ignores that more than four years ago, the MHCC updated its recommended acceptance of ASHRAE Standard 62.2 to refer to the 2013 version. Adopting the more recent version of the ASHRAE standard in this rulemaking would avoid the need for an additional change to the regulations later to update the reference.

**HUD Response:** HUD understands that the MHCC continues to provide recommendations that may be more recent than those published in proposed rules, including updates to the referenced ASHRAE Standard 62.2. Generally, HUD finalizes recommendations in the order received to avoid selective choice, minimize confusion, and so that full and complete impact analyses can be conducted specific to the various groups of recommendations provide by the MHCC.

§ 3280.103 Light and ventilation.

One commenter supported the removal of the maximum 90 cubic feet per minute fan requirement, which will allow the commenter to increase the size of homes built to accommodate larger families, which commenter stated will allow more families to live in safe, affordable homes with the modern amenities they desire.

Another commenter expressed concern that using the Standards and eliminating the alternative construction (AC) process for manufactured housing that utilizes design elements of site-built homes could affect the manufactured housing occupants' health and safety. The commenter urged HUD to keep the AC process in place for design features that could affect the manufactured home's structural integrity and safety, including attached homes (i.e. zero lot line), multi-story homes, and attached carports and garages. The commenter continued that blurring the line between what is manufactured housing and what is site-built housing could mislead

homebuyers, and that manufactured housing that emulates site-built elements should be held to the same inspection and building standards as site-built homes. The commenter urged HUD to require attached units to meet all state and local building codes, including higher energy standards, required for conventionally built housing.

**HUD Response:** HUD's minimum requirements established for attached homes (i.e. zero lot line) and multi-story homes do not change the definition of a manufactured home or impact the requirement that every transportable section of a manufactured home bear a manufacturer's certification label. Through this rulemaking, HUD is codifying requirements previously set forth through Alternative Construction requirements; thereby, accounting for consumer safety. All regulatory aspects of the program, including design review and inspections, remain in place for all manufactured homes built under this federal program. HUD believes the minimum standards established and enforced for these construction options provide benefits to all segments of the industry while protecting consumers' health and safety. Further updates to the referenced ASHRAE Standard 62.2 may be addressed in future rulemaking.

§ 3280.108 Interior Passage.

Several commenters agreed that clarification was needed regarding to which doors the 27-inch requirement applies. One commenter stated that closet doors (including walk-in closets) and pantry doors are less than 27-inches, typically 24-inches or less. Another commenter stated that it has several floor plans with closet and pantry openings less than 27-inches and uses 24-inches for water heater and furnace compartments and 16-inches for linen and coat closets. The commenters stated that they would need to make significant changes to floor plan designs to accommodate HUD's proposal, and one commenter explained this would add costs to the home, drive up affordable housing costs, and financially burden the commenter. One commenter suggested clarifying that the minimum clear opening requirement of 27-inches only apply to passage doors in a manufactured home.

Some commenters suggested adding exclusions for closet, pantry, coat closet, linen closet, and toilet compartment doors and other spaces where the intent is to “reach in” and access an item. The commenters explained that closet and pantry doors, unlike a bedroom door, are not considered passage doors. Further, single-section manufactured homes have a smaller living space when compared with a multi-section manufactured home or a typical site-built home. Given that living space is at a premium in single-section homes, closet and pantry doors should not be subject to the same clear opening requirements.

**HUD Response:** HUD agreed with the comments and revised the standard accordingly.

§ 3280.111 Toilet compartments.

Two commenters suggested revising language in paragraph (b) to clarify the regulatory intent that the section refers to bathroom passage doors in single-section and multi-section homes. For example, the term “single-section” should modify “home,” not “bathroom.”

**HUD Response:** HUD agreed with the comments and revised the standard accordingly.

§ 3280.114 Stairways.

*Comments: Riser Height, Tread Depth, and Consistency*

Several commenters opposed HUD’s proposed changes to stair rise and run requirements. Some commenters noted that, as written, the proposal would conflict with existing state and local requirements and require manufactured home communities to replace existing inventory of prefabricated landings and stairs. Another commenter stated that the stair rise and run in HUD’s proposed rule would not allow stairs to be run parallel with the width of many homes, which would eliminate many floor plan options and adversely penalize manufactured home builders.

One commenter stated that, § 3280.114(a)(2)(i), 7” risers and 10” treads would cause stairway openings to be larger to the point where some floor plans would no longer accommodate a stairway. Some commenters suggested HUD use 8” or 8.25” for the maximum

rise and 9” for the minimum tread, which are figures that thirteen states accept.<sup>6</sup> One commenter also suggested HUD change “%” to “3/8 inch” in § 3280.114(a)(2)(i), and change “%” to “3/4 inch” in § 3280.114 (a)(2)(ii). This commenter also suggested changing “Y2” to “1/2-inch” in paragraph (a)(5).

According to another commenter, the maximum riser height and minimum tread depth should be changed to 8 1/4 inches and 9 inches in § 3280.114 (a)(2)(i). HUD’s proposed requirements would almost eliminate stairway designs that run parallel with the width of a traditional manufactured home. This commenter’s rationale for the recommended change included giving manufacturers more flexibility when trying to balance the smaller form-factor of most homes with consumer demand for multiple stories.

**HUD Response:** Regarding riser height and tread depth, HUD reviewed several state building codes referenced in public comments and has made changes to riser height and tread depth consistent with those requirements found in many state building codes and in accordance with the comments received.

*Comments: Interior and Exterior Stairs.*

Several commenters stated that HUD should clarify whether the requirements apply to stairs inside, or inside and outside, the home or commented on whether the requirements should apply to these different sets of stairs. One commenter stated that requirements for stairways and related design features should focus only on stairways placed inside the manufactured home, and the section title should be changed to “Stairways Inside the Manufactured Home.” Another commenter stated that the proposed changes to paragraph (a)(2) addresses interior stairways and exterior stairways; the commenter suggested revising the proposal to address interior steps only. According to the commenter, states and local municipalities establish stair geometry to which

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<sup>6</sup> The states referenced by the commenter were: IL, IN, KY, ME, MD, MA, MT, NJ, ND, OH, OR, PA, WI and WY. The commenter also referenced a change to the Indiana Code; *see* Indiana Department of Homeland Security, *Proposal for Code Change 43*, IN.gov (May 9, 2018) (proposals 49 and 50), [https://www.in.gov/dhs/files/IRCC%27s%20Final%20Approved%20Amendments%20to%202018%20IRC%20\(Par%201\)%20-%20Accepted%20by%20FPBSC%202-5-19.pdf](https://www.in.gov/dhs/files/IRCC%27s%20Final%20Approved%20Amendments%20to%202018%20IRC%20(Par%201)%20-%20Accepted%20by%20FPBSC%202-5-19.pdf).

first responders are already accustomed, and to require smaller riser heights and larger treads may create a hazard.

Another commenter supported the addition of language to define requirements for stairways, landings, handrails, guards, and stairway illumination, however, the commenter suggested the language should detail if it covers interior stairways, exterior stairways, or both.

Another commenter suggested striking paragraph (b)(2) in its entirety because it partially conflicts with paragraph (b)(1), or, if HUD disagreed with striking (b)(2), revising (b)(2) as follows to streamline and clarify requirements: “A landing or floor must be located on each side of an exterior doorway and the width of each landing must not be less than the door it serves. The maximum threshold height above the floor or landing must be 1 1/2 inches.” Given that paragraph (b)(1) addresses interior stairways, doors, and landings (with exception for certain basement applications), the commenter assumed that paragraph (b)(2) must be intended for exterior applications, which is the basis for the suggested edits.

Two commenters suggested HUD delete paragraph (e)(2) entirely, since exterior stairs are not constructed within the building facility and more appropriately fit under the HUD Code’s Model Manufactured Home Installation Standards. A commenter explained that exterior stairs would be subject to state and local building code and health-safety requirements. If HUD’s exterior illumination requirements conflict with state or local requirements, it would only cause confusion within the industry and may put consumers at risk.

*Comment: Guard Rails.*

Some commenters also suggested, for § 3280.114(d)(1), that the proposed load requirements only apply to guards more than 42” above the floor grade below, to prevent driving up housing costs without providing significant increased safety protection. When a manufactured home includes a porch or similar feature, once installed, it is usually between 30 and 42 inches above the lower floor, and there is no evidence of increased injury from a fall as a result of a guard failure that is 42 or fewer inches from grade. The commenters provided regulatory text

edits, and stated that a 30-inch guard rail structural requirement would increase the cost of each single-section home with a modest porch by \$500, or more for larger homes, which undermines HUD's efforts to preserve manufactured housing affordability.

The commenters further stated HUD should remove the language regarding the horizontal rail restriction in paragraph (d)(2), which HUD has not backed with a significant health-safety concern as justification and which would restrict designs and add unnecessary cost. This restriction is not found in the International Residential Code (IRC), which only prohibits the passage of a four-inch sphere and would result in a restriction for manufactured home builders that does not exist for site-built home builders. One commenter stated that IRC Table R301.1.5 does not require the 200 pound concentrated load to be applied with any other loads and, therefore, the word "not" should be added after "this load" in the last sentence of paragraph (d)(2)(ii). Another commenter agreed and added that this makes (d)(2)(ii) consistent with the last sentence in paragraph (c)(5).

*Comment: Lighting.*

For § 3280.114(e)(1), one commenter stated that HUD should delete the requirement for artificial light to be not less than one-foot-candle at the center of treads and landing and require only a light above stairways and landings because the commenter was not aware of a test method. Another commenter suggested a prescriptive method to simplify compliance with interior stair lighting. Lumens required for a 3 feet wide x 9 feet vertical stair would be 3 feet x 11.67 feet x 1 foot-candle= $\sim$ 35 Lumens. One 60-watt incandescent bulb or 10-Watt A19 LED provides about 840 lumens which is more than adequate.

Another commenter recommended HUD add a prescriptive lighting standard as an alternative compliance option. The proposed illumination requirement of "not less than one (1) foot-candle measured at the center of treads and landings" creates a new test requirement, but it is unclear who is responsible for performing the test and assessing compliance. Without an explanation of the test parameters and how the test would be administered, the commenter was

concerned this provision would be inconsistently enforced. As an alternative, the commenter recommended that HUD introduce a minimum standard for illumination.

**HUD Response:** Generally, HUD agreed with most comments and made changes to the standards for stairways including revisions to riser height and tread depth (§ 3280.114(a)(2), clarification of interior and exterior consideration (§§ 3280.114(a) and 3280.114(b)), provisions for landings (§ 3280.114(b)), and handrails (§ 3280.114(c)).

HUD also modified the standard in multiple places so that the text reflects HUD's regulatory authority for design and construction of the home and its lack of authority to regulate stairways that are designed by others and built at the home's site necessary for access and egress from the entry and exit points of the homes. HUD also disagreed with some commenters, as the requirements in § 3280.112 only apply to stairways integral to the manufactured home, such as those necessary for multi-story or multi-level manufactured home floors or for stairs that are not inside the home but may be necessary for multi-level manufacturer designed and constructed porches designed and built in the home building factory as an integral feature of the manufactured home. Further, requirements for external or exterior stairs that provide entry and exit and are built at the home site are subject to state and or local authority and any such reference otherwise has been removed.

HUD modified the standards related to landings removing duplicative language, clarifying interior versus exterior provisions, and threshold height.

HUD also modified the standard regarding handrails to be consistent with requirements for handrails (removal of ladder effect restriction) identified in other building codes for other residential structures. However, HUD disagreed with comments that would have changed the load requirements for guard systems to apply only to guards above 42 inches above floor grade. The changes effected by this rule are generally consistent with other residential codes enforced nationwide. However, the load requirement of 20 pounds per square foot is significantly less than the load required by many states for similar guard systems.



After consideration of the public comments, HUD has not changed the stairway and landing illumination requirements from the proposed rule as commented by multiple commenters. The requirements, as published, are consistent with state and local standards and compliance remains, as with all other standards, the responsibility of the home manufacturer. In section I. of the preamble to this rule, HUD clarified that all standards in this rule are not retroactive and apply only to newly constructed homes that enter the first phase or stage of production on and after the effective date of the rule. Further changes, such as those proposed by some commenters, should be proposed for review by the MHCC so that consensus review of those proposed changes is made as envisioned by the Act. It is not appropriate for HUD to integrate these changes at the final rule stage.

#### Subpart C, Fire Safety

##### § 3280.209 Smoke Alarm Requirements

One commenter recommended HUD revise § 3280.209, a section not addressed in the proposed rule. The commenter stated that HUD should add combination smoke and carbon monoxide alarms as acceptable devices just as they are in IRC sections R314.1.1 and R314.5.

**HUD Response:** HUD agreed with the commenter and made the corresponding change.

##### § 3280.211 Carbon Monoxide Detectors

Some commenters supported incorporating carbon monoxide requirements into the Standards to protect consumer health and safety. One commenter noted that the MHCC made this recommendation in 2009 and HUD should have adopted it some time ago.

One commenter suggested HUD should revise § 3280.211 to include specific location requirements like smoke alarms, instead of referencing the National Fire Protection Association (NFPA) Standard 720.

Some commenters stated that the proposed rule's coverage of CO alarm requirements would be insufficient under the new § 3280.211 in protecting occupants of manufactured housing because of its limited coverage. All manufactured housing should have CO alarms and not just

those with fuel-fired appliances, designed for installing attached garages, or designed for installation over basements. While the new § 3280.211 would be consistent with occupancy-related installation requirements of IRC Section R315, these requirements provide no direct protection for occupants of manufactured homes except where coincident housing-related factors of installed fuel-fired appliances, designs for installing attached garages, or designs for installation over basements were relevant. Furthermore, the proposed § 3280.211 requirements would not protect occupants where other sources such as use of portable heating appliances or from misuse of charcoal grills indoors (both reflected in CO incident data) following completion of manufactured housing installation and commissioning. Occupants of “all-electric” homes may be particularly vulnerable during periods of electrical outage. The comment provided instances of harm caused by carbon monoxide.

One commenter commended HUD for recognizing the importance of requiring carbon monoxide detectors consistent with the IRC’s requirements. Through incorporation into the Construction and Safety Standards, HUD relieves local officials from conducting additional inspections and potential re-work post installation to comply with local requirements.

Another commenter stated that HUD’s proposed carbon monoxide requirements should align more closely with similar requirements in other building codes, such as the IRC’s. Specifically, the commenter’s suggestions include: specifying the required locations where carbon monoxide alarms must be installed (for example, alarms should be required outside each separate sleeping area or in the immediate vicinity of any bedrooms); requiring interconnectivity between alarms, because when more than one alarm is installed in a home, the actuation of one alarm should activate all alarms; specifying how each alarm must be powered, because the home’s electrical system should be the primary power source, with batteries as a secondary, reserve power source; and clarifying that the Standards would allow combination carbon monoxide and smoke alarms to keep pace with consumer demand. Another commenter (0023) also supported this change.

According to the commenter, HUD should clarify that combination alarms are acceptable to ensure the industry continues to keep pace with consumer demand. The commenter also suggested amending § 3280.209 to ensure the sections cross-reference each other.

*Comment: Alarms versus Detectors.*

Some commenters stated that the word “detector” should not be used and suggested using “alarms” to be consistent with other codes and striking the word “detector” wherever it occurs, because alarms and detectors are distinct concepts. Alarms are self-contained, single, or multi-station sensing devices that detect a given event and sound an audible or visual alarm. Detectors are sensing devices that must be connected to a separate alarm system, rather than self-contained systems. One commenter stated that standards do not include requirements for transmitting detection devices to an alarm control unit as would be necessary with detector devices. The commenter recommended removing the standard versions in specific code sections which are incorporated by reference in § 3280.4, which will allow for simplified future updates and is a common practice for incorporating building code standards into regulations and laws. The commenter recommended removing the reference to ANSI/UL 2034, which may not be readily available and incorporate location requirements within this section.

**HUD Response:** HUD agreed with many comments and has modified the Construction and Safety Standards to address combination alarms, integration of specific location requirements, and removal of references to “detector.” HUD also notes that updating specific editions of referenced standards may require notice and comment and as such, will remain for the time-being. HUD also disagreed with some commenters that proposed to require carbon monoxide alarms in all homes, regardless of whether the home has fuel-burning appliances, an attached garage, or designed for installation over a basement. HUD’s standards are consistent with state and local standards for residential construction. Should the commenter wish to pursue requirements for carbon monoxide alarms in all homes, the commenter is encouraged to submit

the proposed change to the MHCC for review and deliberation by the Committee. It is not appropriate for HUD to integrate these changes at the final rule stage.

Subpart C, Fire Safety, Attached Garages

§ 3280.212 Factory constructed or site-built attached garages.

One commenter noted that HUD's current policy, to not require the IPIA to inspect documents shipped with the manufactured home (under Interpretive Bulletin H-1-77), conflicts with proposed paragraph (g)—there is no assurance that the manufacturer would be including these additional instructions.

A commenter stated that the proposed rule leaves it unclear as to when a garage is to be added to the home. Another commenter stated that HUD should clarify that paragraph (a) applies only to garages which are not self-supported. One commenter supported HUD's actions to remove the issue of attached garages and carports from the costly AC process. The commenter stated that the proposed standards and regulations would effectively obviate previous sub-regulatory HUD "guidance" memoranda which mandated the approval of attached garage and "add-on"-ready manufactured homes via the AC process set forth at § 3282.14.<sup>7</sup>

Several commenters stated that HUD should revise the proposed fire separation requirements. A commenter stated HUD should require that gypsum be added on site to meet the fire separation requirement. Installing gypsum on the exterior of a home in the factory would not be a durable enough exterior finish for storage and shipping. Another commenter agreed and stated that paragraph (c) needs to be clarified so that fire separation between the garage and the home may be completed on-site. Site-installed dormers at the garage in addition to floor-to-foundation fire separation will be required to be completed on-site and it would be advantageous to run all separation at that time to ensure proper alignment with the garage. Paragraph (c)(1)

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<sup>7</sup> See, e.g., June 12, 2014 HUD Guidance Memorandum ("Construction of On-Site installation of Add-Ons Such as an Attached Garage"); and November 10, 2014 HUD Guidance Memorandum ("Additional DAPIA Guidance for Review and Processing of Manufacturers Alternative Construction Requests for Attached Garages").

should also be clarified to allow gypsum required to meet separation to be either factory or site installed and allowance for products equivalent to 1/2" gypsum should be added.

One commenter stated that in § 3280.212(g) the reference to § 3285.201 should be changed to § 3285.301. The commenter proposed that a new paragraph (h) be added because a site-built, self-supported garage is considered an add-on per § 3282.8(j)(1) and does not affect the ability of the manufactured home to comply with the Construction and Standards.

Another commenter stated the Standards should be consistent with other building codes, such as the IRC. Instead of requiring that the fire separation be continuous from beneath the floor, through the attic space, to the underside of the roof sheathing/decking, the Standards should only state that the garage must be separated from the home with appropriate gypsum wallboard or equivalent. Manufacturers can determine whether the fire separation should be continuous from the floor, through the attic space, to the roof sheathing or decking or if it is more appropriate to envelop the structure's garage side. Other building codes leave this to the builder's discretion and so should the Standards.

The commenter continued that HUD's proposed rule for factory or site construction of attached garages should emphasize the distinction between attached and self-supported structures. HUD should also revisit the fire separation requirements for attached garages. The commenter's suggested edits included clarifying that attached garages are not self-supported. Further, when a garage would be attached to and supported by the home, manufacturers should only be required to comply with the Standards' load provisions. They should not be expected to build homes that also meet the specific requirements of the various state and local jurisdictions, and confirming that a site-built, self-supported garage is considered an add-on and clarifying that add-ons do not affect a manufactured home's ability to comply with the Standards.

According to one commenter, the guidance provided in §§ 3280.212, 3280.213, 3282.8(j), and 3285.903(c) (Attached Garages, Carports and Add-Ons) appears contradictory and confusing. Sections 3280.212 and 3280.213 provide guidance on how manufactured housing

should be prepared for the addition of garages and carports which is clearly within the scope of the Federal standards. These sections, along with § 3282.8, discuss load paths, providing conflicting information on where loads should be transferred. If the intent is to offer options, then the sections should be presented with an “or” statement to indicate they are options, as is included in the Data Plate requirements of § 3280.5. The commenter said who bears responsibility for approval and inspection of these attached accessory buildings and structures should also be clarified. According to the commenter, these structures should comply with the local building code and be inspected to that code by the local jurisdiction, given their designation as “attached buildings or structures” and not the extension of the manufactured home.

**HUD Response:** HUD agreed with most comments and has accepted all suggested textual changes to the standards that were submitted by the public. HUD modified the final Construction and Safety Standards accordingly.

HUD disagreed with the commenter that installation instructions are not required by this final rule, as it is specifically addressed through § 3280.212(g). Further, upon placing a label certification on each transportable section of a manufactured home, the manufacturer self certifies its compliance with the Construction and Safety Standards. Should the commenter seek additional changes to either manufacturer or IPIA requirements, the commenter is encouraged to submit comments through the MHCC process for consensus review and deliberation. It is not appropriate for HUD to integrate these changes at the final rule stage. HUD also notes that the added information required on the Data Plate more clearly identifies whether the home has been designed for an attached garage.

#### Subpart C, Fire Safety, Attached Carports

##### § 3280.213 Factory constructed or site-built attached carports.

One commenter stated that the proposed rule should be modified to include attached patio covers and porch roofs which can easily exceed the size of a carport. The commenter also stated

that current HUD policy under Interpretive Bulletin H-1-77 conflicts with paragraph (f)—there is no assurance that the manufacturer would be including these additional instructions.

Another commenter requested HUD delete the following: paragraph (b) about maximum roof slope for the carport, on the basis that carports cannot exceed the height of the home; paragraph (c) on beam designs, on the basis that beam designs would be part of the approved design by the Design Approval Primary Inspection Agency (DAPIA); and paragraph (d) on shear wall and uplift strapping design, on the basis that the carport design would not be known.

One commenter stated that paragraph (f)'s reference to § 3285.201 should be changed to § 3285.301.

Another commenter said § 3280.213 for factory or site-built attached carports should emphasize the distinction between attached and self-supported structures and that striking unnecessary or superfluous rules would also streamline the requirements. The commenter's suggested edits include: deleting the maximum roof slope requirement from the list of design characteristics for carports, because given that the height of the carport cannot exceed the height of the home, the carport's roof slope is never a relevant factor in home design; adding a provision that, as an alternative to specifying the unique design characteristics of the carport and the home, manufacturers may provide the maximum loads that the home is designed to resist from the carport; removing the provisions specifying where splices in the host beam can be located, because narrowly defining this provision with such detailed, prescriptive requirements could have unanticipated consequences, especially if there are continued advancements in anchoring technology. According to the commenter, specific design characteristics should remain subject to review and approval by the manufacturer's DAPIA.

The commenter's recommendations continued with: removing the shear wall requirements for homes designed for Wind Zone II and III installations in favor of manufacturers specifying anchor requirements for uplift forces in Wind Zones II and III as part of the home's DAPIA-approved design, because if the manufacturer and its DAPIA specify these requirements

at the design stage, the size of any attached carport would be limited by the load capacity of the anchor system installed in the factory. This would limit the design options available to any third party responsible for installing an attached carport at the jobsite; and removing the “cone of influence” provision, because this requirement is dependent on the type of anchor, and should be determined by the installer. The manufacturer should not be expected to know this information without knowing exactly where a manufactured home would be sited and how it would be installed; and confirming that a site-built, self-supported carport is considered an add-on and clarifying that add-ons do not affect a manufactured home’s ability to comply with the Construction and Safety Standards.

Another commenter also supported deleting paragraph (c)(1), because this paragraph was covered in paragraphs (a) and (c), and additional details on the acceptable engineering load path are not required. The commenter also suggested deleting paragraph (d) because the load path requirements should apply to all wind zones as specified in paragraphs (a) and (c). The commenter also stated that the accepted engineer anchor test protocol does not test for cone of influence and it is not defined within the Construction and Safety Standards. Therefore, it should be removed from § 3280.213(f)(1).

**HUD Response:** HUD did not add requirements for patio covers and porch roofs, as such specific code change text and supporting information be submitted to the MHCC for consensus review and deliberation. It is not appropriate for HUD to integrate these changes at the final rule stage. Further, HUD disagreed with comments that installation instructions are not required by the standard, as it is clearly addressed in §§ 3280.213(b) and (e). Upon placing a label certification on each transportable section of a manufactured home, the manufacturer self-certifies its compliance with the Construction and Safety Standards.

HUD notes the added information required on the Data Plate more clearly identifies whether the home has been designed for an attached carport. HUD agreed with all comments providing specific textual changes and HUD modified the standards accordingly.



## Subpart D, Body and Frame Requirements

### § 3280.305 Structural design requirements.

One commenter stated that proposed § 3280.305(h)(5) expands areas of construction that could be deferred to the job site and imposed on the installer under “On-Site Completion Requirements.” The commenter stated that installers were not included in deliberations on the proposed changes, and that since the On-Site Completion rule is relatively new, and given that HUD has failed to monitor or measure compliance, this provision should be deleted until the success of the “On Site Completion” process can be evaluated. Another commenter stated that HUD should delete the words “connections between sections,” after “hinged roof sections,” and before “sheathing,” in paragraph (h)(5) because connections between sections is covered as part of standard installation.

Another commenter stated that paragraph (h)(5)(iii) requires inspection at an installation site in stages but does not clarify who would provide inspections. The commenter also suggested that HUD clearly define “inspection of the work at the installation site in stages,” and stated that this new requirement would add costs to the home, drive up the cost of affordable housing, and would financially burden the commenter.

Two commenters stated that HUD strike §§ 3280.305(h)(5) (iii), (iv), and (v), because these proposals generally apply to onsite installation and appear to overstep Subpart D’s bounds. The commenters believed these requirements, if necessary, would be more appropriate under Part 3282, Subpart M, “On-site Completion of Construction of Manufactured Homes.”

**HUD Response:** HUD disagreed with the commenter that revisions to this standard expand areas of construction that can be completed on site. The changes to this standard were already implemented with the On-Site Completion of Construction Rule and these changes are conforming. Further, HUD conducted limited monitoring of procedures and approvals related to On Site Completion of Construction and has not concluded any adverse or significant findings.

HUD modified this section to address other comments received including removing any references to installation activities. HUD also modified the inspection requirements but has retained the intent that inspections occur prior to covering up additional aspects or otherwise allowing for inspection panels so that inspection can take place. This aspect is important to assure that the work completed on site conforms to the design standards, so that the home is completed in accordance with the Construction and Safety Standards, and the home is not taken out of compliance through the work done at the home site. Further, these standards are established to work in concert with the regulations for On Site Completion of Construction and will help to ensure that appropriate designs are provided to address the work that is expected to happen in the factory, the work that is expected to happen at the home site, and the factory and on site inspections at the site necessary for conformance.

§ 3280.307 Resistance to elements and use.

A commenter stated that the expansion of field installation of exterior coverings means the requirement for the manufacturer to provide all needed materials (siding, fasteners, channels, etc.) should be added to this list. Another commenter agreed and suggested adding “and the required materials” after “Complete installation instructions.” A commenter suggested adding attached garages to the list of exemptions in paragraph (e), given the amount of onsite work required to complete the installation of an attached garage, and as long as the manufacturer is complying with HUD’s list of conditions.

**HUD Response:** HUD reviewed and generally agreed with the comments. HUD modified the standard accordingly.

Subpart F, Thermal Protection

§ 3820.504 Condensation control and installation of vapor retarders.

One commenter stated that the proposed requirements under §§ 3820.504(b) and .506(c) are not needed, and HUD should delete them. The commenter stated its mating walls are located

in a conditioned area, gaskets are installed in the factory to prevent air infiltration, and the commenter has not witnessed a mating wall with damage from condensation.

Another commenter stated that mating walls are interior walls and should not be treated as exterior walls which require a vapor barrier. Furthermore, many homes have single mating walls, and this section does not define on which side the vapor barrier should be applied.

Another commenter stated that HUD should delete these proposals until certain issues are evaluated. There will be a concern if the connection between floors is not effectively sealed from allowing cold outside air to enter between the ceiling of the first floor and floor system of the upper floor. If cold air is entering this area, a vapor retarder should be applied to the ceiling on the first floor. Another concern would be if the bottom board is still required to be placed under the upper floors, this may add to additional condensation between the floors if the vapor retarder is not installed on the ceiling on the lower floor.

**HUD Response:** HUD disagreed with the commenters regarding the need for §§ 3280.504(b) and (c) to be deleted or amended, and that the affected walls are interior walls. These commenters may not understand that the subject standards apply to the (fire) walls separating attached manufactured homes; rather than, mating walls between two sections of the same manufactured home. Multi-story manufactured homes have been designed and built for more than two decades prior to the rulemaking and under Alternative Construction processes. These homes have been designed and built, and significantly, HUD has not received information indicating these homes, without a ceiling vapor retarder on the first floor, are not performing. § 3820.506 Heat loss/heat gain.

Two commenters suggested revising paragraph (c) by replacing “the mating wall of each” with “the fire separation wall between each.” Mating walls between two or more sections of a multi-section home are not the same as firewalls separating two or more attached, single-family manufactured homes. Mating walls are aligned at installation to create a cohesive single-family residence—they are not exterior walls. However, fire separation walls, which separate attached

single-family homes, should be classified as exterior walls because they act as a health-safety barrier between distinct residential dwellings. The commenters believed these edits clarify the distinction between masonry walls and fire separation walls.

**HUD Response:** HUD reviewed and generally agreed with the comments. HUD modified the standard to incorporate the public comment where those changes have not significantly altered the intent as proposed.

#### Subpart G, Plumbing Systems

A commenter suggested clarifying the definition of “indirect waste receptor,” a new term being introduced to the Standards. Second, in § 3280.608, strike “Hangars” and replace it with “Hangers” as in the original. Third, by incorporating additional safety considerations from the Uniform Plumbing Code, the commenter saw an opportunity to protect the general public from the risk of burn or scald. The commenter believed a home’s relief drain, should it terminate outside the home, must terminate between six and twenty-four inches above the finished grade and face down at termination; high enough to prevent backflow, but low enough to reduce the risk of injury or accident.

**HUD Response:** HUD reviewed and generally agreed with the comments. HUD modified the standard to incorporate the public comment where those changes have not significantly altered the intent as proposed.

#### § 3280.609 Water distribution systems.

One commenter stated that the requirement that installers extend water heater relief valve piping to beyond the skirting of the home would very likely create an imminent safety hazard because it carries superheated, pressurized water, so it should be deleted. Another commenter stated that if the relief valve is directed to outside the crawl space, there would be a possibility of personal injury to those nearby. The commenter explained that water heater manufacturers do not allow additional piping to be installed directly on the pressure relief valve. They require “air

gaps” when directing into additional piping. The commenter concluded that HUD should reject these changes.

Another commenter stated that HUD should add discharge pipe turndown requirements taken from the Uniform Plumbing Code which adds a higher level of scald protection. This revision will increase consumer safety.

Two commenters proposed changes to HUD’s regulatory text.

**HUD Response:** HUD reviewed and generally agreed with the comments and addressed the protections to residents by accepting comments regarding relief pipe turndowns. HUD also modified the standard to incorporate the public comment where those changes have not significantly altered the intent as proposed.

#### § 3280.612 Tests and inspection.

One commenter opposed the changes to this section because they would reduce the required pressure needed to perform water supply testing and, as a result, a revision of the manufacturers’ installation instructions would be needed along with oversight by the IPIA agencies to assure that the proper instructions are provided with the home. Another commenter recommended that, in the last sentence, “potable water source” should replace “potable source of supply.”

**HUD Response:** HUD generally agreed with the comments regarding wording changes to the standard. HUD modified the standard to incorporate the public comment where those changes have not significantly altered the intent as proposed. HUD disagreed with opposition to the proposed change as the changes have been vetted by the MHCC and are consistent with many state requirements for testing potable water supply systems. While this change may require revisions to manufacturers’ installation instructions, the system of design approvals will ensure the instructions conform to the revised requirements by the rule’s effective date.

#### Subpart H, Heating, Cooling and Fuel Burning Systems

##### § 3280.705 Gas piping systems.

One commenter suggested HUD eliminate “hard pipe” in paragraph (i)(8)(iii), as the industry uses a flex gas connector and not a quick-disconnect.

**HUD Response:** HUD reviewed and generally agreed with the commenter and modified the standard to incorporate the commenter’s proposed change.

§ 3280.709 Installation of appliances.

A commenter stated that §§ 3280.709(a) and 3280.711 require that manufacturers currently ship two sets of installation instructions for each appliance with every home; the MHCC voted to strike this requirement from section § 3280.709(a) by letter ballot in 2015 (Log #92).

Some commenters noted the importance of inspection but stated that it is unclear who is to perform on-site inspections and testing related to paragraph (a)(1)(ii). One commenter stated that HUD should clarify that the installation is to comply with the local building code requirements and be subject to inspection by state or local code officials. This commenter noted that the language in § 3280.709(a)(1) would allow for the installation of direct vent space heating appliances on-site following approved instructions and the installation and inspection procedures provided.

A commenter was concerned with changes to the vent system termination provisions in paragraph (d) because the commenter was unaware of any health-safety risks that would necessitate expanding the permissible range from 3 to 10 feet. The commenter stated the IRC has a similar requirement, but it only applies to the vent system of a fuel-burning appliance. Consequently, the commenter recommended adding the clarifying phrase “of fuel-burning appliances.” In addition, the commenter replacing the phrase “habitable areas” with “habitable rooms” because this term is defined in the Standards.

**HUD Response:** HUD agreed that the MHCC voted to eliminate the requirement for the home manufacturer to provide two sets of appliance manufacturers’ instructions with each home. This recommended change is anticipated to be addressed in a future rulemaking. HUD also reviewed

the comments concerning the site installed direct vent appliances and has made changes to clarify that testing of the home's fuel supply and electrical systems are the responsibility of the home manufacturer. HUD also reviewed the comment regarding separation of intake and exhaust vents and made changes to address the comment by clarifying that the placement restrictions apply to exhausts of fuel burning appliances and using the defined term, "habitable rooms."

§ 3280.710 Venting, ventilation, and combustion air.

One commenter stated that the new requirement at paragraph (d) is not needed and that, to follow the proposed requirement, the commenter would have vent pipes above allowable transport height. The commenter requested that HUD delete the requirement because it would be forced to have vent pipes site installed, revise vent runs, or eliminate some floor plans completely, which would drive up the cost of affordable housing and cause financial burden. Another commenter stated that HUD should clarify that § 3280.710 applies to fuel-burning combustion appliances, to be consistent with the IRC. Two commenters proposed changes to HUD's regulatory text.

**HUD Response:** HUD disagreed with the comment that the changes to separate intake and exhaust vents are not needed. The proposed standard was recommended by the MHCC and HUD refers the commenter to U.S. Government Accountability Office (GAO) audit report GAO-13-52, Testing and Performance Evaluation Could Better Ensure Safe Indoor Air Quality. HUD also reviewed the comment regarding separation of intake and exhaust vents and has made changes to address the comment by clarifying that the placement restrictions apply to exhausts of fuel burning appliances and using the defined term, "habitable rooms."

Subpart I, Electrical Systems

§ 3280.807 Fixtures and appliances.

Some commenters stated that the new requirement at paragraph (g) has no safety benefit to the consumer and HUD should delete it. The commenters explained that wiring ceiling-mounted and wall-mounted light fixtures to one switch has been standard practice for decades. A

commenter stated they were unaware of any health-safety risk associated with having multiple bathroom lights controlled by the same switch, HUD has not provided any information to suggest otherwise, and consumers' preference and other building codes or standards support the commenter's position.

**HUD Response:** HUD disagreed with the comments. The intent of the requirement for separate switches allows an occupant to use one or both lights at their discretion. This allows potential energy consumption savings by allowing the occupant to energize one light rather than both if both are not necessary.

#### Subpart J, Transportation Systems

##### § 3280.902 Definitions.

One commenter stated that the proposed change to the "Drawbar and coupling mechanism" definition, by removing "A frame" and adding in its place "rigid substructure," is not justified and should be discarded. Another commenter suggested deleting the parenthetical from the "Drawbar and coupling mechanism" definition for clarity. The commenter stated the parenthetical is unnecessary, and "usually an A frame rigid structure" only creates confusion where the defined term "Frame" also uses the phrase "rigid structure" in its definition.

**HUD Response:** HUD disagreed with these comments. The added term is consistent with the same use in other definitions and is intended to reflect the structure to which the coupling mechanism is mounted.

##### § 3280.903 General requirements for designing the structure to withstand transportation shock and vibration.

One commenter suggested that HUD reject the proposed changes to paragraph (a). The commenter stated that to remove "during its intended life" is unacceptable. To alter the language to "function after set-up" now establishes a "time frame" on how long chassis have to last and many manufactured homes will no longer be "transportable" which is required under 3280.2.



The commenter did not suggest where HUD should reinstate the phrase “during its intended life” if HUD kept its proposed changes to § 3280.903.

For paragraph (b)(1), commenters stated that HUD should provide more guidance on the road test requirements and clarify what constitutes an effective road test. One commenter suggested that HUD clearly define the minimum miles to travel, the type of roadways to travel, and what a failure is. Other commenters supported the requirement for road tests to be witnessed by experts who are in the best position to provide such services—an independent registered professional engineer or architect, or by a recognized testing organization. One commenter recommended that the testing laboratory be accredited to ISO/IEC 17025 or 17020. Two commenters stated that in paragraph (b)(1), the manufacturer’s Production Inspection Primary Inspection Agency should be added to the list of independent third parties who can witness and certify the road test, and included regulatory text changes. These commenters stated that paragraphs A and B appear to be a carryover from Interpretive Bulletin J-1-76 and should be updated to the applicable (1) and (2) paragraph numbering format to clarify that the equation requires the sum of the Dead Load and Floor Load calculations.

**HUD Response:** HUD disagreed with the comment that the changed language alters the intended life of the chassis. The terminology refers to the structural, plumbing, mechanical and electrical systems and requires that those systems remain operational/functional after transportation.

HUD reviewed the comments and proposed changes that would add several specific requirements within the road test requirements. These suggestions should be put forth for MHCC review and consideration, as it is not appropriate for HUD to integrate these changes at the final rule stage.

Upon review of public comment, HUD added that Primary Inspection Agencies may also witness and certify road tests. HUD also reviewed comments that include specific changes to the formula included in § 3280.903(b)(3) and edited the formula accordingly.

§ 3280.904 Specific requirements for designing the transportations system.

A commenter suggested that “to insure” should be replaced with “ensuring” to correct a minor grammatical error. Some commenters suggested that in paragraph (b)(4)(i) the word “static” should be added to “gross dead weight,” such that the text should read “gross static dead weight,” to maintain consistency with the “static tongue weight” variable.

For paragraph (b)(4)(ii), one commenter suggested HUD add a requirement to check weights with the home in a level position ready for transport.

For paragraph (b)(9)(ii), several commenters stated HUD should maintain the current 40-foot stopping distance. One commenter stated HUD should utilize Interpretive Bulletin J-1-76. Requiring new brake tests would pose financial burdens. Another commenter stated it could not find a federal Department of Transportation (DOT) requirement that would reduce the braking distance to 35 feet from 40 feet. The proposal would eliminate acceptable brake tests qualified under the current standards, adding undue burden and cost, without justification, to homes with years of satisfactory braking experience which would need to be re-tested. Another commenter believed keeping the stopping distance at 40 feet is consistent with DOT regulations.

For the same paragraph (b)(9)(ii), a commenter stated the parenthetical should be deleted. The transportation of manufactured homes more appropriately falls under Category B(3), “All other property-carrying vehicles and combinations of property-carrying vehicles,” of the DOT Vehicle Brake Performance Table.<sup>8</sup> Given that the weight of a home can easily exceed 25,000 pounds—with some 16-foot-wide, full-length models approaching 40,000 pounds—home transportation is more closely related to the movement of heavy equipment, such as excavators and dump trucks. While the process of transporting a home is considered driveway-towaway operations under DOT regulations, the DOT also recognizes that these homes require special consideration.<sup>9</sup>

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<sup>8</sup> See 49 CFR 393.52(d).

<sup>9</sup> See, e.g., 49 CFR 393.75(h).

Two commenters suggested in paragraph (b)(6)(i), the word “nationally” should be deleted. There are several reputable programs and testing agencies that do not yet have national accreditation, but they have regional, state, or local approval. These programs or agencies should not be excluded, especially when state standards are often more stringent. Another commenter recommended that, for paragraph (b)(6)(i), that the nationally recognized testing agency be accredited to ISO/IEC 17025 or 17020.

Some commenters suggested in paragraph (b)(8)(ii), the phrase “or equivalent” should follow “tread wear indicator” to ensure consistency with how the phrase is applied to other similar provisions throughout the Standards.

For paragraph (b)(9)(iii), a commenter stated that HUD’s proposed requirement is not practical because there is no way to check actual voltage unless the truck is hooked up to the brakes. The commenter asked if the intent is to perform this test on every home that ships and requested that HUD delete the requirement as it would drive up the cost of affordable housing and pose financial burden on the commenter.

Another commenter suggested replacing the first two sentences of paragraph (b)(9)(iii) with the following: “Brake wiring must be provided for each brake. The brake wire must not be less than the value specified in the brake manufacturer's instructions.” Manufacturers should not be responsible for evaluating each transportation company’s tractors and equipment or for assessing each company’s quality assurance program. They should only be responsible for ensuring that the provided brake wiring meets or exceeds the minimum required specifications as provided by the brake manufacturer.

**HUD Response:** HUD accepted the comment regarding changing “insuring” to “to ensure” within § 3280.904(b)(3). HUD also accepted the comment to add “static” within §§ 3280.904(b)(4) and 3280.904(b)(6). HUD also accepted the comment to check weights with the home in a level position (see revised § 3280.904(b)(4)(ii)).

HUD disagreed with the comment to revise the stopping distance from 35 to 40 feet. HUD revised the reference for the braking performance stopping distance, aligning HUD's standards with DOT (at 49 CFR 393.52(d)) and clarified the classification of manufactured home to best align with DOT's previously designated classification.

HUD disagreed with the comment to remove "nationally" from the qualifier on testing agencies that may accept recycled axle programs (§ 3280.904(b)(6)(i)). This terminology has been in use for decades and its use is consistent with historical use. HUD also disagreed with the comment that suggests adding a specific accreditation for testing agencies. HUD has found the work of nationally recognized testing agencies, having various qualifications, does not impede health and safety protection.

HUD also reviewed comments requesting the addition of equivalent tread wear indicators but has not received specific means of determining equivalence and has therefore decided not to include such language in the final rule. These suggestions should be put forth for MHCC review and consideration, as it is not appropriate for HUD to integrate these changes at the final rule stage.

HUD reviewed public comment and specific comments that included textual changes to § 3280.904(b)(9)(iii) regarding electrical brake wiring. HUD accepted these changes.

#### Subpart K, Attached Manufactured Homes and Special Construction

Several commenters supported adding two-family, or two- and three-family, dwelling units to Subpart K. These commenters supported duplexes and triplexes as more practical and affordable solutions in urban and suburban applications because of, for example, zoning restrictions. One commenter suggested less restrictive fire separation requirements and amending §§ 3280.1002 and .1004 and adding a new § 3280.1003(a). Another commenter also suggested less restrictive fire separation requirements and offered several recommended changes to regulatory text. These proposed changes to regulatory text included separating § 3280.1003 into two paragraphs—paragraph (a) for "two attached manufactured homes" and paragraph (b) for

“three or more attached manufactured homes.” Some commenters supported reevaluating Subpart K for a single structure with two dwellings but did not propose alternative regulatory text. One commenter stated that duplexes have simpler requirements than “town homes,” and the demand for duplexes will far outpace any other type of attached manufactured home.

Another commenter, while expressing general support for HUD’s proposed changes, questioned HUD’s focus on adopting standards for multi-story manufactured homes and attached manufactured homes, while MHCC recommended standards for multi-family manufactured homes are not included in the proposed rule and have yet to be proposed for adoption. The commenter noted the absence of an explanation in the proposed rule for HUD’s prioritization of the included standards for multi-story and “zero-lot-line” attached manufactured homes, as contrasted with broader and potentially much more economically-significant and beneficial proposed standards for multi-unit/multi-family manufactured homes. The commenter stated that instead of promoting affordable manufactured housing for all Americans as required by law, HUD appears to be abusing its regulatory authority to support Fannie Mae and Freddie Mac in order to benefit a narrow industry segment, while smaller manufacturers are kept waiting endlessly for proposed multi-unit/multi-family standard. The commenter stated that HUD gave no indication in the proposed rule of when or even if multi-unit/multi-family manufactured homes will be addressed by promulgating new standards that are clearly and uncontrovertibly within the scope of present federal law. The commenter concluded that HUD should include MHCC recommended standards for multi-unit/multi-family manufactured homes in any final rule under the present docket.

Another commenter stated that much of the proposed language in the new Subpart K duplicates nearly verbatim the language contained in IRC sections R302.2 and R302.4 without observing and protecting the rights of the ICC as its copyright holder. The commenter stated that if HUD wishes to publish any part of the IRC in its rules or future rulemaking proceeding, HUD must seek to comply with OMB Circular A-119 and Incorporation by Reference procedures.

**HUD Response:** HUD reviewed comments that include specific text changes and has integrated those comments to the maximum extent deemed necessary to effect the appropriate changes where those changes have not significantly altered the intent as proposed.

HUD decided not to eliminate structural independence for attached homes, as each home shall be designed to be structurally independent and each home must perform on its own. HUD accepted changes to wording regarding fire separation walls but has not accepted the use of exceptions. The exceptions should be submitted as proposed changes to the MHCC, and any exceptions shall be handled through the Alternative Construction process. It is not appropriate for HUD to integrate these changes at the final rule stage.

Further, this standards change was not intended to address multi-dwelling unit manufactured homes (multiple single-family residences in one manufactured home structure). The MHCC recommendations for multi-unit manufactured homes are contained in the fourth set of its recommendations for changes to the Standards. The attached manufactured homes are each designed as individual single-family residential structures by the home manufacturers and each such attached home is to comply with the requirements set forth in 24 CFR 3280 and as such meet all such requirements to be labeled as manufactured homes to be installed in accordance with accompanying installation instructions that also meet HUD's Model Manufactured Home Installation Standards.

HUD has reviewed the public comment regarding integration of requirements that are generally consistent with provisions of the International Residential Code (IRC). HUD has acted on proposed standards received from the public and as reviewed, modified and recommended by the MHCC. While some language may be consistent between the IRC, state and local codes, and the requirements published in this rule, there are differences that remain and justify establishment of unique provisions rather than incorporating the IRC or any given state or local code in their entirety. HUD believes the standards will allow use of some of the latest building technologies and materials, creating more consistency with multiple State-adopted residential

building codes for site-built housing (some of which may incorporate or amend standards including, but not limited to, the International Residential Code), and expand consumer choice.  
*Comments: Preemption and Opportunity Zones.*

A commenter asserted that in the preamble HUD overtly intends to preempt the authority of state and local jurisdictions through Subpart K. The commenter cited reasons as to why such requirements are within the domain of state and local authorities. Adjacent and attached manufactured homes may be manufactured by different companies and installed at different times resulting in potential interactions that have not been addressed within either manufactured home, but which could be within the proposed rule's requirements. The proposed rule provides no requirements that attached manufactured homes be manufactured by the same manufacturer or installed at the same time.

A commenter stated that HUD should have provided more detail and justification for the following statement made in the Proposed Rule, which was used as a blanket justification for the new subpart K: "Subpart K would enable manufacturers to design and construct homes similar to townhomes, which may be useful to address affordable housing needs in Opportunity Zones and urban or other areas."

According to the commenter, HUD makes no attempt to quantify the benefit against potential costs even though the qualifier "may" is used to describe the policy change's potential benefit. For instance, HUD did not consider how many fewer code inspectors might there be in the country if this policy change were to allow the manufactured housing industry to become a dominant force in the housing sector. Further, HUD also failed to provide any evidence that a consumer market even exists for townhome-style developments made out of manufactured homes. Additionally, HUD also failed to describe any interest that would validate the above statement for the type of developments that are considered by this new provision on the part of the Opportunity Zone funds, or their managers, or even those local officials representing the Opportunity Zone areas.

The commenter was also concerned about the number of state and local authorities that the proposed rule would preempt, if finalized in its current form. The commenter stated there are at least four major preemptions that should be considered more fully through a Federalism Consultation, consistent with Executive Order 13132. The commenter believed that the authority granted to manufactured housing producers under this provision should have triggered a proper consultation process, irrespective of the additional preemptions provided by the proposed rule for building code-related authorities affecting stairways, landings, handrails, guards and stairway illumination, siting of and installation standards for carbon monoxide alarms, and indoor ventilation requirements. The commenter suggested that prior to finalizing the rule, HUD should pause to complete a Federalism Consultation and more robust cost-benefit analysis, especially as it relates to disaster preparedness and recovery.

**HUD Response:** HUD reviewed the public comment regarding the justification for this new Subpart. In response, HUD found that the standards promulgated in this Final Rule are within the scope and authority provided by the Manufactured Home Construction and Safety Standards Act of 1974, as amended by the Manufactured Housing Improvement Act of 2000. Further, HUD believes that the future design, construction and installation of attached manufactured homes may create affordable housing opportunities and may allow manufactured homes to be placed in more urban areas where land and space restrictions have historically limited the use of manufactured housing and because the design and construction of such homes historically required specific HUD approvals creating a more burdensome and costly oversight process. These areas may include locations within Opportunity Zones. HUD is aware of a nationwide trend that recognizes increased focus on efficient land use in many areas. HUD's Construction and Safety Standards allow for the industry to provide safe, decent, sanitary, and affordable housing, as the need develops.

HUD also noted that the aspects of installation would still be subject to state and local authority, as is the same for all other manufactured home installations, provided manufacturer



installation instructions and state and local requirements at a minimum comply with HUD's Model Manufactured Home Installation Standards. However, HUD's Construction and Safety Standards as promulgated through this Final Rule would preempt state and local requirements for the same aspects of construction, the same as for all other manufactured homes.

§ 3280.1002 Definitions.

Two commenters suggested changes to HUD's proposed regulatory text. Another commenter stated that HUD should reject the proposed changes to § 3280.1002. Manufactured homes are designed to be transportable during the intended life of the home and allowing multi-family manufactured homes to be constructed and installed affects homeownership and the adjacent home.

Another commenter opposed the proposed rule due to its unwarranted intrusion into the modular housing construction sector. Subpart K would allow "(t)wo or more adjacent manufactured homes that are structurally independent from foundation to roof and with open space on at least two sides..." (definition of Attached manufactured home at § 3280.1002). In addition to federal preemption and safety risks associated with manufactured housing, the commenter asserted that HUD has not considered additional factors that make modular homebuilding preferable to manufactured housing, including: durability, resiliency, long-term value and resale market, access to conventional financing without the limits FHA places on manufactured home loans, and fewer zoning restrictions.

**HUD Response:** HUD reviewed comments that include specific text changes and has integrated those comments to the maximum extent deemed necessary to effect the appropriate changes. HUD has changed the definition for "fire separation wall" by removing the language that the walls be structurally independent as that requirement is already included in the definition of "attached manufactured home." Further, HUD reviewed the comments suggesting intrusion into the modular housing sector and disagreed with the comments. These standards apply to

manufactured housing and contain many of the same or similar requirements as other similar structures or similar design features and considerations.

§ 3280.1003 Attached manufactured home unit separation.

Two commenters provided a significant number of suggested changes to HUD's proposed regulatory text. The commenters suggested several editorial and substantive changes to the unit separation requirements and have suggested exceptions to the requirements under certain conditions. Some commentors have also suggested substantive changes to requirements for fire separation wall penetrations.

**HUD Response:** HUD reviewed comments that include specific text changes and has integrated those comments to the maximum extent deemed necessary to effect the appropriate changes that remain in line with the MHCC's recommendations. The changes made by HUD within this standard remove reference to "two attached manufactured homes" and more generically requires unit separation between any attached manufactured homes. HUD has also modified the requirement that 1 hour fire-resistive rating be based on testing in accordance with ASTM E 119-05, without including language stating "with exposure from both sides on each attached manufactured home unit." HUD has not integrated substantive changes to include new exceptions and HUD has not accepted substantive changes to fire separation penetrations. HUD will consider exceptions through the Alternative Construction process, should a manufacturer be unable to meet the requirements of the standards and be able to demonstrate an equivalent level of safety. Further changes, such as those proposed by some commenters, should be proposed for review by the MHCC so that consensus review of those proposed changes is made as envisioned by the Act. It is not appropriate for HUD to integrate these changes at the final rule stage.

§ 3280.1004 Exterior walls.

Two commenters proposed that in paragraph (b), "or separation wall" should be added after "fire separation wall" and before "on each manufactured home."

**HUD Response:** HUD reviewed comments that include specific text changes and has decided not to incorporate the change to ensure all exterior walls contain insulation.

Comments: Changes to the Manufactured Home Procedural and Enforcement Regulations (24 CFR part 3282).

A commenter stated that high winds caused by tornadoes and hurricanes have caused significant damage to manufactured housing units, as compared to site-built houses, as evidenced by the Federal Emergency Management Agency (FEMA) in multiple post-disaster assessment reports. The commenter explained that structural add-ons to manufactured homes present a clear safety risk to life and property, and the broad authority given to manufactured housing manufacturers regarding attachments, including car ports, garages, awnings, decks and porches, at the newly proposed 24 CFR Part 3282, as well as through the proposed subpart K, should be reconsidered and reevaluated. HUD should reevaluate the proposed revisions in consultation with FEMA and the U.S. Global Change Research Program.

Another commenter recommended that HUD keep in mind that, on January 14, 2020, several important amendments to Subpart M were advanced by the MHCC's Regulatory Enforcement Subcommittee. While the commenter did not suggest that HUD delay updates to Subpart M, HUD should be aware that substantial changes will likely be approved by the MHCC at its next meeting. The commenter also looked forward to the prompt implementation of the MHCC's recommended revisions to Subpart M, which the commenter believed will streamline the administrative process.

**HUD Response:** HUD reviewed these general comments. HUD is regulating design of the manufactured home, not the design and construction of site-built attachments. These aspects remain under the purview of the local authorities having jurisdiction.

Changes to the Model Manufactured Home Installation Standards (24 CFR part 3285).

General Comments

A commenter stated the proposed rule would have a significant impact on the role of manufactured home installers, including potential liability for installation work related to accessory buildings and other on-site installation, such as certain appliances the proposal states can be shipped “loose” to the homesite. To ensure that the end buyer or resident of the home has a home that has been safely manufactured, transported, and installed, it is vital that all installation documentation is shipped with and remains with the home.

**HUD Response:** HUD reviewed the comment and addressed similar comments in this final rule. Concerns regarding verification of current installation documentation requirements should be put forth for MHCC review and consideration, as it is not appropriate for HUD to integrate changes on these requirements at the final rule stage.

#### § 3285.5 Definitions.

One commenter suggested that the “attached accessory building or structure” definition in § 3285.5 be updated to ensure it matches how the term is defined elsewhere in the Standards. Specifically, the word “the” should be inserted between “which” and “attachment,” to promote consistency in the Standards for the new term “attached accessory building or structure.”

**HUD Response:** HUD reviewed comments that included specific text changes and integrated those comments to the maximum extent deemed necessary to effect the appropriate changes.

#### Continued Updates to the Standards and MHCC Recommendations not Addressed in the Proposed Rule.

#### General Comments

Several commenters supported regular updates to the Standards and HUD’s backing of manufactured housing. Commenters also recommended that HUD develop and implement a streamlined process for Standards updates going forward, so revisions are introduced on a more consistent timeline.

Many commenters supported recommendations and technical changes made by the national association representing the industry at the federal level, the Manufactured Housing

Institute (MHI), that further enhance the proposed rule. The commenters believed MHI's recommendations should be incorporated into HUD's final updates and represent critical progress in clearing out the backlog of items that have been approved by the MHCC. These changes were recommended by the MHCC but have not yet been incorporated into the Standards, and the commenters encouraged HUD to quickly finalize the proposed rule with MHI's recommended changes.

A commenter believed updates are delayed because the Office of Manufactured Housing Programs is a "low priority" within HUD's organizational hierarchy. HUD has repeatedly said it is committed to both housing innovation and streamlining the administrative and regulatory processes that hurt manufactured housing, and this rulemaking galvanizes HUD's commitment to the manufactured housing industry. Because HUD is the standard-setting body for the nation's manufactured home construction and safety standards, updates must follow a distinct administrative path and must be prioritized separately from unrelated policy matters. Such an approach was recommended by the Government Accountability Office in 2014 and in 2019 by HUD's own Office of Policy Development and Research.<sup>10</sup>

These commenters also urged HUD to move forward with the subsequent sets of Standards updates that have been passed by the MHCC but are still pending HUD action. Such sets of updates include several critical industry recommendations such as roll-in showers and tankless water heaters within the Standards. The commenters also urged HUD to move forward with subsequent proposals to update the Federal Construction and Safety Standards that have been considered and recommended by the Consensus Committee - yet have not been acted upon by the Department. One commenter stated it is unacceptable that HUD continues to neglect its obligations to ensure timely updates to the Standards. HUD's delays have real-world consequences for families moving into manufactured homes and for the environment and public

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<sup>10</sup> U.S. Gov't Accountability Office, GAO-14-410, *Manufactured Housing: Efforts Needed to Enhance Program Effectiveness and Ensure Funding Stability* (July 2, 2014). *See also* HUD's "Report to Congress on the On-Site Completion of Construction for Manufactured Homes" (June 18, 2019).

health. It is critical that HUD address each of the revisions already recommended by the MHCC and act on future MHCC recommendations within the timeframe allowed by Congress, “not later than 12 months after the date on which a standard is submitted to the Secretary by the MHCC.”

*Comments: The Department of Energy and Energy Efficiency.*

One commenter stated that one of the proposed rule’s notable failures is HUD’s decision “not to include in this proposed rule certain MHCC recommendations due to pending regulations for improving energy efficiency in manufactured homes being prepared by the U.S. Department of Energy” (DOE). DOE in November 2019 agreed to a settlement to take final action on energy efficiency no later than February 2022. This offers HUD a reasonable opportunity to implement the MHCC’s recommendations in the current rulemaking and HUD’s delay further risks the health and financial well-being of new manufactured home residents.

Another commenter continued that HUD states that “[g]iven this DOE rulemaking,” it “has decided to postpone action” on certain MHCC recommendations affecting §§ 3280.502 and 3280.506(b). The proposed rule cites no legal authority for this postponement, nor is HUD’s proposed action one of the three outcomes permitted by the statutory text:<sup>11</sup> the adoption, modification, or rejection of the proposed revisions recommended by the MHCC. Moreover, the proposed rule does not fulfill HUD’s obligation to publish for public comment the proposed revised standards recommended by the MHCC. Because HUD has failed to identify the specific changes to the Standards that it is postponing, HUD denies the public an opportunity to meaningfully comment on this aspect of the proposed rule. Even if DOE’s standards for energy efficiency would ultimately supersede the MHCC’s approved recommendations, HUD has ample time to implement the MHCC’s recommended energy efficiency improvements before compliance with any conflicting DOE standards would be required.

Another commenter recognized the valuable role energy efficiency requirements play in reducing the energy burden of households (particularly low-and moderate-income households)

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<sup>11</sup> See 42 U.S.C. 5403(a)(5).

and supporting affordability across the life cycle of homeownership and rental. DOE's delay does not absolve HUD of its obligation to provide manufactured homeowners with energy efficient homes. The commenter recommended HUD incorporate provisions of the International Energy Conservation Code appropriate for manufactured homes into the federal standards. HUD should also work diligently with DOE to assure the implementation of the requirements in 42 U.S.C. 17071.

**HUD Response:** HUD reviewed the comments and intends to move forward with more recent MHCC recommendations. HUD will continue to collaborate and cooperate with other federal agencies, including DOE, as needed and necessary.

#### **IV. Incorporation by Reference**

The reference standards proposed for incorporation are approved by the Director of the Federal Register for incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of these standards may be obtained from the organization that developed the standard. As described in § 3280.4, these standards are also available for inspection at HUD's Office of Manufactured Housing Programs and the National Archives and Records Administration.

This final rule incorporates by reference the following six consensus standards for Manufactured Housing:

1. ANSI/ASHRAE 62.2-2010, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings. This standard defines the roles of and minimum requirements for mechanical and natural ventilation systems and the building envelope intended to provide acceptable indoor air quality in low-rise residential buildings. It is ASHRAE's Indoor Air Quality standard for residential buildings. It applies to spaces intended for human occupancy within single-family houses and multi-family structures of three stories or fewer above grade, including manufactured and modular houses. This standard is available online for review via read-only, electronic access at <http://ibr.ansi.org/Standards/>.

2. ANSI/UL 2034-2016. Standard for Single and Multiple Station Carbon Monoxide Alarms. These requirements cover electrically operated single and multiple station carbon monoxide (CO) alarms intended for protection in ordinary indoor locations of dwelling units, including recreational vehicles, mobile homes, and recreational boats with enclosed accommodation spaces and cockpit areas. The carbon monoxide alarms covered by these requirements are intended to respond to the presence of carbon monoxide from sources such as, but not limited to, exhaust from internal-combustion engines, abnormal operation of fuel-fired appliances, and fireplaces. Carbon monoxide alarms are intended to alarm at carbon monoxide levels below those that cause a loss of ability to react to the dangers of carbon monoxide exposure. Carbon monoxide alarms covered by this standard are not intended to alarm when exposed to long-term, low-level carbon monoxide exposures or slightly higher short-term transient carbon monoxide exposures, possibly caused by air pollution or properly installed and maintained fuel-fired appliances and fireplaces. This standard is available online for review via read-only, electronic access at <http://ibr.ansi.org/Standard>.

3. ASTM E 119-05. Standard Test Methods for Fire Tests of Building Construction and Materials. This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled conditions, but does not by itself incorporate all factors required for fire hazard or fire risk assessment of the materials, products, or assemblies under actual fire conditions. This standard is available online for review via read-only, electronic access at <http://www.ASTM.org/READINGLIBRARY>.

4. NFPA 70-2005 National Electrical Code, Article 550.17. The provisions of this article cover the electrical conductors and equipment installed within or on mobile and manufactured homes, the conductors that connect mobile and manufactured homes to a supply of electricity, and the installation of electrical wiring, luminaires (fixtures), equipment, and appurtenances related to electrical installations within a mobile home park up to the mobile home service-entrance conductors or, if none, the mobile home service equipment. More specifically, Article



550.17 provides that the wiring of each mobile home be subjected to a 1-minute, 900-volt, dielectric strength test (with all switches closed) between live parts (including neutral) and the mobile home ground. Alternatively, the standard allows a test to be performed at 1080 volts for 1 second. This test shall be performed after branch circuits are complete and after luminaires (fixtures) or appliances are installed. This standard is available online for review via read-only, electronic access at <http://ibr.ansi.org/Standards>.

5. NFPA 720. Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment. This document does not attempt to cover all equipment, methods, and requirements that might be necessary or advantageous for the protection of lives from carbon monoxide exposure. The effects of exposure to carbon monoxide vary significantly among different people. Infants, pregnant women, and people with physical conditions that limit their bodies' ability to use oxygen can be affected by low concentrations of carbon monoxide. These conditions include, but are not limited to, emphysema, asthma, and heart disease, all of which are usually indicated by a shortness of breath upon mild exercise. People in need of warning about low levels of carbon monoxide should explore the use of specially calibrated units or other alternatives. This standard is primarily concerned with life safety, not with protection of property. It covers the selection, design, application, installation, location, performance, inspection, testing, and maintenance of carbon monoxide detection and warning equipment in buildings and structures. This standard is available online for review via read-only, electronic access at <http://ibr.ansi.org/Standards>.

6. UL 217. Single and Multiple Station Smoke Alarms. This document provides requirements that cover electrically operated single and multiple station smoke alarms intended for open area protection in indoor locations. This standard is available online for review via read-only, electronic access at <http://ibr.ansi.org/Standard>.

The sections of the Construction and Safety Standards that would be amended by each reference modification and the impact of each reference is shown in the chart below.

Standard	Edition	Title	Section	Comment
ANSI/UL 2034	Third	Single and Multiple Station Carbon Monoxide Alarms	§ 3280.211(a)	Only required for homes that incorporate a gas burning appliance and then preempts state and local requirements already established in 38 states.
ANSI/ASHRAE 62.2	2010	Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings	§ 3280.103(d)	Provides an option to ventilation requirements established at § 3280.103(b) and (c).
NFPA No.70 Article 550.17	2005	National Electrical Code	§ 3280.810(b)	Provides for a referenced standard to conduct polarity checks as an option to visual polarity checks.
NFPA 720	2015	Standard for the Installation Carbon Monoxide Detection Equipment	§ 3280.211(b)	Only required for homes that incorporate a gas burning appliance or an attached garage and then preempts state and local requirements already established in 38 states.
ASTM E 119	2005	Standard Test Method for Fire Tests of Building Construction and Materials	§ 3280.1003(a)	Allows for a manufacturer to design and construct attached housing that is otherwise only permitted through an AC review and approval.
UL 217	Fifth	Single and Multiple Station Smoke Alarms	§ 3280.211(a)	Provides for a referenced standard for manufacturers to use combination carbon monoxide and smoke alarms. This standard addresses smoke alarm

In addition to reviewing these standards on-line, copies of the standards may be obtained from the organization that developed the standard as follows:

ANSI - American National Standards Institute, 11 West 42nd Street, New York, NY 10036, 212642-4900, fax 212 398-0023, [www.ansi.org](http://www.ansi.org).

ASHRAE – American Society of Heating, Refrigeration, and Air Conditioning Engineers, 1791 Tullie Circle, NE., Atlanta GA 30329, 404-636-8400, fax 404-321-5478.

ASTM - ASTM, Int'l, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428, 610 832-9500, fax 610-832-9555, [www.astm.org](http://www.astm.org).

NFPA - National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269, 617-770-3000, fax 617-770-0700, [www.nfpa.org](http://www.nfpa.org).

UL - Underwriters Laboratories, 333 Pfingsten Road, Northbrook, Illinois 60062, 847-272-8800, fax 847-509-6257, [www.ul.com](http://www.ul.com).

This final rule also references ASTM D781-1968 (Reapproved 1973), which has already been approved for incorporation by reference. No changes are being proposed to this IBR.

## **V. Findings and Certifications**

### *Regulatory Review - Executive Orders 12866 and 13563*

Under Executive Order 12866 (Regulatory Planning and Review), a determination must be made whether a regulatory action is significant and, therefore, subject to review by the Office of Management and Budget (OMB) in accordance with the requirements of the order. Executive Order 13563 (Improving Regulations and Regulatory Review) directs executive agencies to analyze regulations that are “outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them in accordance with what has been learned.”

Executive Order 13563 also directs that, where relevant, feasible, and consistent with regulatory objectives, and to the extent permitted by law, agencies are to identify and consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public.

This rule was determined to be a “significant regulatory action” as defined in section 3(f) of the Executive order (although not an economically significant regulatory action, as provided under section 3(f)(1) of the Executive order).

#### *Executive Order 13771*

Executive Order 13771, entitled “Reducing Regulation and Controlling Regulatory Costs,” was issued on January 30, 2017. This rule is expected to be an Executive Order 13771 regulatory action. Details on the estimated cost savings of this final rule can be found below in the Summary of Benefits and Costs, and in the rule’s Regulatory Impact Analysis.

#### *Summary of Benefits and Costs of Rule*

As discussed, this final rule would amend the Federal Manufactured Home Construction and Safety Standards by adopting recommendations made to HUD by the MHCC. In this regard, this final rule revises various standards that reflect current construction practices used by the manufacturing housing industry and the home construction industry in general. For example, when a manufacturer chooses to install a carbon monoxide alarm, the manufacturer will use an alarm that has been listed in accordance with requirements of ANSI/UL 2034 and the manufacturer will install the alarm in accordance with the product’s installation instructions that meet the requirements of NFPA 720. Similarly, standards proposed that are applicable to interior door widths as well as those provisions for multi-story and attached manufactured homes are based on current construction practices that have largely been established due to pre-existing requirements of state and local jurisdictions for other housing products (i.e., site-built or modular). Other standards recommended by the MHCC and proposed by HUD, such as those that would define requirements for stairways, landings, handrails, guards and stairway illumination, would free manufacturers from having to follow various state and local requirements that vary from jurisdiction to jurisdiction and bring uniformity to manufactured home construction nation-wide. The rule would also incorporate five new reference standards

that are already standards used in the design, listing, and evaluation of the respective materials or components.

In addition, HUD has concluded that this rule provides manufacturers more flexibility in the ability to pursue design options and, more importantly, cost savings as the result of eliminating the need to obtain HUD approval through the Alternative Construction (AC) process (see § 3282.14). More specifically, manufacturers need to engage the AC process to design and construct manufactured homes that incorporate innovations that have not yet been codified in HUD's Construction and Safety Standards. For example, addressing the design and construction of multi-story homes, attached homes, or homes that are designed to accommodate an attached garage or carport that is not factory constructed but added to the home during the home installation process, may create regulatory confusion between state, local, and Federal authorities and may sometimes require HUD approval through the AC process prior to the manufacturer being able to incorporate these design features. After review of an AC request, HUD establishes specific terms and conditions for use of the design through an AC letter. While the AC process serves a useful purpose, including encouraging the use of new technology in the construction of manufactured homes, HUD believes that codification of certain design features that already were reviewed can provide cost savings for manufacturers and consumers, and reduce regulatory confusion when directly addressed within the code. In fact, HUD's final rule is based primarily on the MHCC's recommendations and integrates some aspects of specific AC letters that have been issued in the past. Specifically, regulatory costs that are currently borne by the manufactured home manufacturer associated with preparing an AC request and maintaining the AC approvals include:

1. Manufacturers' engineers' preparation of designs, calculations, or tests for aspects that do not conform with outdated building standards for past innovations that have become more commonplace but have not yet been incorporated into the Construction and Safety Standards;

2. DAPIA review and approval of the designs, calculations, and or tests to be submitted on behalf of the manufacturers requesting HUD's approval;

3. Preparation of a submission package for the AC request, including all designs, calculations, and tests to be sent to HUD for approval;

4. Lost opportunity costs and actual manufacturer and DAPIA staff time to respond to HUD throughout the review and approval process, which, depending on the specific AC request, may take as few as 30 days or as long as 6 months;

5. Time and travel associated with third-party inspections at each affected home's site for manufactured homes built under an AC that requires a site inspection be conducted in order to verify conformance with specific terms and conditions of the AC approval; and

6. Maintaining and providing copies of AC-specific production reports, inspection reports, and other administrative burdens required to maintain the AC approval.

This rule would also require that carbon monoxide detectors be installed in homes with fuel burning appliances or designed by the home manufacturer for an attached garage. These provisions are intended to be consistent with other single-family dwelling construction requirements and are intended to provide early warning alerts to occupants of the presence of carbon monoxide within the living space of the manufactured home. Specifically, this rule would require that carbon monoxide alarms be installed in accordance with the Standard for the Installation of Carbon Monoxide Detection Equipment, NFPA 720-2015, and be listed and conform to the requirements of Single and Multiple Station Carbon Monoxide Alarms, ANSI/UL 2034-2016 edition.

In sum, the one-time annual costs of this proposed rule range from \$2.19 million to \$4.122 million. Total valued benefits range from \$8.515 million to \$12.517 million. Unvalued benefits include reduced home damage and injuries from piping water heater relief valves to outside of the home and from the avoided delay during the AC review. The total estimated annual costs and benefits are described in the chart below.

	3 percent		7 percent	
	Low	High	Low	High
<b>Total Annual Costs (See Figure 3)</b>				
Carbon Monoxide Detector Requirement	\$258,000	\$1,032,000	\$258,000	\$1,032,000
Water heater relief valves	1,352,400	1,932,000	1,352,400	1,932,000
Wet-vented drains	483,000	772,800	483,000	772,800
Separate Bathroom Light Switches	96,600	425,040	96,600	425,040
<b>Total</b>	<b>\$2,190,000</b>	<b>\$4,161,840</b>	<b>\$2,190,000</b>	<b>\$4,161,840</b>

### Present Value of Benefits

Carbon Monoxide Detector Requirement (See				
Value of Injuries Prevented	\$166,818	\$166,818	\$142,688	\$142,688
Value of Deaths Prevented	8,908,186	8,908,186	7,619,651	7,619,651
Wet-vented drains (See Figure 7)	483,000	772,800	483,000	772,800
Separate Bathroom Light Switches (See Figure	326,796	2,614,366	214,929	1,719,434
Deregulatory (See Figure 6)				
Whole-House Ventilation	3,540	3,540	3,540	3,540
2-Story Homes	12,640	12,640	12,640	12,640
Attached Garages	38,836	38,836	38,836	38,836
<b>Total</b>	<b>\$9,939,816</b>	<b>\$12,517,187</b>	<b>\$8,515,285</b>	<b>\$10,309,589</b>

A fuller discussion of the costs and benefits of this rule is available in the rule's Regulatory Impact Analysis, which is part of this docket.

Finally, any changes made to the rule subsequent to its submission to OMB are identified in the docket file, which is available for public inspection in the Regulations Division, Room 10276, Office of General Counsel, U.S. Department of Housing and Urban Development, 451 7th Street, SW, Washington, DC 20410-0500.

### *Paperwork Reduction Act*

The information collection requirements contained in this proposed rule have been approved by the OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520) and

assigned OMB control number 2502-0253. HUD expects to make changes to the existing recordkeeping items consistent with changes in this final rule and believes that the changes will result in a decrease of burden. In accordance with the Paperwork Reduction Act, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection displays a valid control number.

The burden of information collection addressed in this final rule is estimated as follows for those aspects that would continue to require AC requests and does not include burdens for past AC requests related to carport-ready homes, garage-ready homes, homes that exceed 2,571 square feet (whole house ventilation), and two-story homes:

Information Collection	Number of Respondents	Frequency of Respons	Responses per Annum	Burden Hours Per Response	Annual Burden Hours	Hourly Cost Per	Annual Cost
Manufacturers Records							
§ 3282.14 Alternative Construction Submissions	135	0.75	101	2.5	253	\$33.57	\$8,493.21
IPIA Records							
§ 3282.14 Alternative Construction Submission Concurrence Records and Reporting	12	14	168	2.0	336	\$33.57	\$11,279.52
DAPIA Records							
§ 3282.203/361/364 Design Review Records and Reporting	6	28	168	1.0	168	\$33.57	\$5,639.76
<b>TOTAL</b>	<b>153</b>		<b>569</b>		<b>757</b>		<b>\$25,412.49</b>

#### *Unfunded Mandates Reform Act*

Title II of the Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531-1538) establishes requirements for Federal agencies to assess the effects of their regulatory actions on state, local, and tribal governments, and the private sector. This rule will not impose any Federal mandates on any state, local, or tribal government or the private sector within the meaning of the Unfunded Mandates Reform Act of 1995.



### *Environmental Review*

A Finding of No Significant Impact with respect to the environment has been made in accordance with HUD regulations at 24 CFR part 50, which implement section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C)). The Finding of No Significant Impact is available for public inspection between the hours of 8 a.m. and 5 p.m. weekdays in the Regulations Division, Office of General Counsel, Room 10276, Department of Housing and Urban Development, 451 Seventh Street, SW, Washington, DC 20410-0500. The Finding of No Significant Impact will also be available for review in the docket for this rule on [Regulations.gov](https://www.regulations.gov).

### *Regulatory Flexibility Act*

The Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*) generally requires an agency to conduct a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements, unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. It is HUD's position that this proposed rule would not have a significant economic impact on a substantial number of small entities. This proposed rule would regulate establishments primarily engaged in making manufactured homes (NAICS 32991). The U.S. Small Business Administration's size standards define an establishment primarily engaged in making manufactured homes as small if it does not exceed 1,250 employees. Of the 222 firms included under this NAICS definition, approximately 35 produce manufactured homes subject to HUD's Manufactured Housing Construction and Safety Standards. Other entities covered by this NAICS code build non-HUD Code prefabricated buildings. Of the 35 manufacturers subject to HUD's Manufactured Housing Construction and Safety Standards, 31 are considered to be small businesses based on the threshold of 1,250 employees or less. The final rule applies to all the manufacturers and thus would affect a substantial number of small entities.

Small entities have the ability and capability to offer the same type of housing products with the same or similar options, features, and appliances as larger manufacturers. However, smaller manufacturers have more difficulty spreading regulatory costs over the higher production of homes like that of a large, higher producing manufacturer. Small manufacturers would need to bear the costs, reducing profit margins accordingly or passing-through the costs over lower production amounts. This may disproportionately increase the cost of housing products for small manufacturers considering the same or similar options, features, and appliances. This rule, however, would provide small manufacturers greater flexibility to pursue design options and, more importantly, obtain cost savings resulting from the elimination of the need to obtain HUD approval through the AC process (see § 3282.14). More specifically, small manufacturers are more likely to engage engineering consultants and other non-staff resources in order to provide data and information needed for the AC process. Consequently, small manufacturers would benefit most from this rule's provisions that eliminate the AC process for design and construction of manufactured homes that incorporate innovations that have not yet been codified in HUD's Construction and Safety Standards. Additionally, the elimination of these current regulatory costs may provide small manufacturers the opportunity to pursue design and construction innovations that absent the rule would have been too costly to pursue.

For the reasons stated, a substantial number of small manufacturers with fewer than 1,250 employees will be affected by this rule. Nevertheless, HUD anticipates that the rule will not have a significant economic impact on them. Accordingly, the undersigned certifies that this rule would not have a significant economic impact on a substantial number of small entities.

*Executive Order 13132, Federalism*

Executive Order 13132 (entitled "Federalism") prohibits, to the extent practicable and permitted by law, an agency from promulgating a regulation that has federalism implications and either imposes substantial direct compliance costs on state and local governments and is not required by statute, or preempts state law, unless the relevant requirements of section 6 of the

Executive order are met. This rule does not have federalism implications and does not impose substantial direct compliance costs on state and local governments or preempt state law within the meaning of the Executive order.

*Catalog of Federal Domestic Assistance*

The Catalog of Federal Domestic Assistance number for Manufactured Housing Construction and Safety Standards is 14.171.

**List of Subjects**

**24 CFR Part 3280**

Fire prevention, Housing standards, Incorporation by reference.

**24 CFR Part 3282**

Administrative practice and procedure, Consumer protection, Intergovernmental relations, Investigations, Manufactured homes, Reporting and recordkeeping requirements, Warranties.

**24 CFR Part 3285**

Housing standards, Manufactured homes.

Accordingly, for the reasons described in the preamble, HUD amends 24 CFR parts 3280, 3282, and 3285 to read as follows:

**PART 3280--MANUFACTURED HOME CONSTRUCTION AND SAFETY  
STANDARDS**

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

**Authority:** 15 U.S.C. 2697, 42 U.S.C. 3535(d), 5403, and 5424.

2. In § 3280.2, add in alphabetical order a definition for “Attached accessory building or structure” to read as follows:

**§ 3280.2 Definitions.**

\* \* \* \* \*

*Attached accessory building or structure* means any awning, cabana, deck, ramada, storage cabinet, carport, windbreak, garage or porch for which the attachment of such is designed by the home manufacturer to be structurally supported by the manufactured home.

\* \* \* \* \*

3. Revise § 3280.3 to read as follows:

**§ 3280.3 Manufactured home procedural and enforcement regulations, and consumer manual requirements.**

(a) A manufacturer must comply with the requirements of this part, part 3282 of this chapter, and 42 U.S.C. 5416.

(b) Consumer manuals must be in accordance with § 3282.207 of this chapter.

4. Amend § 3280.4 as follows:

a. Revise paragraph (a);

b. Add paragraph (m)(2);

c. In the introductory text to paragraph (p), remove the words “American Society for Testing and Materials” and add, in their place, “ASTM, International”;

d. Redesignate paragraphs (p)(27) through (34) as paragraphs (p)(28) through (35), respectively, and add new paragraph (p)(27);

e. Redesignate paragraphs (aa)(4)(xvi) through (xix) as paragraphs (aa)(4)(xvii) through (xx), respectively, and add new paragraph (aa)(4)(xvi); and

f. Add paragraph (aa)(9);

g. In paragraph (hh)(9), remove “§ 3280.208(a)” and add, in its place, “§§ 3280.208(a) and 3280.211(a)”;

h. Add paragraph (hh)(23).

The revision and additions read as follows:

**§ 3280.4 Incorporation by reference.**

(a) The specifications, standards, and codes of the following organizations are incorporated by reference in 24 CFR part 3280 (this Standard) pursuant to 5 U.S.C. 552(a) and 1 CFR part 51 as though set forth in full. The incorporation by reference of these standards has been approved by the Director of the Federal Register. If a later edition is to be enforced, the Department will publish a notification of change in the *Federal Register*. These incorporated standards are available for purchase from the organization that developed the standard at the corresponding addresses noted below. Incorporated standards are available for inspection at the Office of Manufactured Housing Program, Manufactured Housing and Construction Standards Division, U.S. Department of Housing and Urban Development, 451 Seventh Street SW., Room B-133, Washington, DC 20410, email [mhs@hud.gov](mailto:mhs@hud.gov). Copies of incorporated standards that are not available from their producer organizations may be obtained from the Office of Manufactured Housing Programs. These standards are also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email [fedreg.legal@nara.gov](mailto:fedreg.legal@nara.gov) or go to [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

\* \* \* \* \*

(m) \* \* \*

(2) ANSI/ASHRAE 62.2 – 2010, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, copyright 2010 IBR approved for § 3280.103(d).

\* \* \* \* \*

(p) \* \* \*

(27) ASTM E 119–05, Standard Test Methods for Fire Tests of Building Construction and Materials, approved September 15, 2005, IBR approved for § 3280.1003(a).

\* \* \* \* \*

(aa) \* \* \*

(4) \* \* \*

(xvi) Article 550.17, IBR approved for § 3280.810(b).

\* \* \* \* \*

(9) NFPA 720, Standard for Installation of Carbon Monoxide (CO) Detection and Warning Equipment, 2015 Edition, Copyright 2014, IBR approved for § 3280.211(b).

\* \* \* \* \*

(hh) \* \* \*

(23) ANSI/UL 2034-2016, Standard for Single and Multiple Station Carbon Monoxide Alarms, Third Edition, dated February 28, 2008 (including revisions through May 11, 2016), IBR approved for § 3280.211(a).

\* \* \* \* \*

5. In § 3280.5, redesignate paragraphs (d) through (i) as paragraphs (e) through (j), respectively, and add new paragraph (d) to read as follows:

**§ 3280.5 Data plate.**

\* \* \* \* \*

(d) The applicable statement:

This manufactured home IS designed to accommodate the additional loads imposed by the attachment of an attached accessory building or structure in accordance with the manufacturer installation instructions. The additional loads are in accordance with the design load(s) identified on this Data Plate; or

This manufactured home IS NOT designed to accommodate the additional loads imposed by the attachment of an attached accessory building or structure in accordance with the manufacturer installation instructions.

\* \* \* \* \*

6. In § 3280.11, revise paragraph (d) to read as follows:

**§ 3280.11 Certification label.**

\* \* \* \* \*

(d) The label must be located at the taillight end of each transportable section of the manufactured home approximately 1 foot up from the floor and 1 foot in from the road side, or as near that location on a permanent part of the exterior of the manufactured home section as practicable. The road side is the right side of the manufactured home when one views the manufactured home from the tow bar end of the manufactured home. If locating the label on the taillight end of a transportable section will prevent the label from being visible after the manufactured home section is installed at the installation site, the label must be installed on a permanent part of the exterior of the manufactured home section, in a visible location as specified in the approved design.

7. In § 3280.103, revise paragraph (b) introductory text and add paragraph (d) to read as follows:

**§ 3280.103 Light and ventilation.**

\* \* \* \* \*

(b) *Whole-house ventilation.* Each manufactured home must be provided with whole-house ventilation having a minimum capacity of 0.035 ft<sup>3</sup>/min/ft<sup>2</sup> of interior floor space or its hourly average equivalent. This ventilation capacity must be in addition to any openable window area. In no case shall the installed ventilation capacity of the system be less than 50 cfm. The following criteria must be adhered to:

\* \* \* \* \*

(d) *Optional ventilation provisions.* As an option to complying with the provisions of paragraphs (b) and (c) of this section, ventilation systems complying with ANSI/ASHRAE Standard 62.2 (incorporated by reference, see § 3280.4) may be used.

8. In § 3280.108, add paragraph (c) to read as follows:

**§ 3280.108 Interior passage.**

\* \* \* \* \*

(c) All interior swinging doors must have a minimum clear opening of 27 inches except doors to toilet compartments in single-section homes (see §3280.111(b)), and doors to closets and pantries.

9. Revise § 3280.111 to read as follows:

**§ 3280.111 Toilet compartments.**

(a) Each toilet compartment must be a minimum of 30 inches wide, except, when the toilet is located adjacent to the short dimension of the tub, the distance from the tub, to the center line of the toilet must not be less than 12 inches. At least 21 inches of clear space must be provided in front of each toilet.

(b) All bathroom passage doors in single-section homes must have a minimum clear opening width of 23 inches, and bathroom passage doors in multi-section homes must have a minimum clear opening width of 27 inches.

10. In § 3280.113, redesignate paragraphs (b), (c), and (d) as paragraphs (c), (d), and (e), respectively, and add paragraph (b) to read as follows:

**§ 3280.113 Glass and glazed openings.**

\* \* \* \* \*



(b) Required glazed openings shall be permitted to face into a roofed porch where the porch abuts a street, yard, or court and the longer side of the porch is at least 65 percent open and unobstructed and the ceiling height is not less than 7 feet.

\* \* \* \* \*

11. Add § 3280.114 to read as follows:

**§ 3280.114 Stairways.**

(a) *Stairways--(1) General.* These minimum standards apply to stairways that are designed and constructed as part of the factory-completed transportable section(s) of a manufactured home, such as interior stairways for multi-level or multi-story homes or external stairways for multi-level construction features that are designed and constructed in the factory on a transportable section and integral to the access and egress needs within the transportable section(s) of a home. These standards do not apply to exterior stairways that are built at the home site or stairways to basement areas that are not designed and built as part of a transportable section of a manufactured home.

(2) *Width.* Stairways must not be less than 36 inches in clear width at all points above permitted handrail height and below the required headroom height. Handrails must not project more than 4 ½ inches on either side of the stairway and the minimum clear width of the stairway at and below the handrail height, including treads and landings, must not be less than 31 ½ inches where a handrail is installed on one side and 27 inches where handrails are provided on both sides.

(3) *Stair treads and risers--(i) Riser height and tread depth.* The maximum riser height must not exceed 8 1/4 inches and the minimum tread depth must not be less than 9 inches. The riser height must be measured vertically between leading edges of the adjacent treads. The tread depth must be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The walking surface of treads and

landings of a stairway must be sloped no steeper than one unit vertical in 48 units horizontal (a 2-percent slope). The greatest riser height within any flight of stairs must not exceed the smallest by more than 3/8 inch. The greatest tread depth within any flight of stairs must not exceed the smallest by more than 3/8 inch.

(ii) *Profile*. The radius of curvature at the leading edge of the tread must not be greater than 9/16-inch. A nosing not less than 3/4-inch but not more than 1-1/4 inches shall be provided on stairways with solid risers. The greatest nosing projection must not exceed the smallest nosing projection by more than 3/4 inch between two stories, including the nosing at the level of floors and landings. Beveling of nosing must not exceed 1/2-inch. Risers must be vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees from the vertical. Open risers are permitted, provided that the opening between treads does not permit the passage of a 4-inch diameter sphere. A nosing is not required where the tread depth is a minimum of 11 inches. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches or less.

(4) *Headroom*. The minimum headroom in all parts of the stairway must not be less than 6 feet 8 inches, measured vertically from the sloped plane adjoining the tread nosing or from the floor surface of the landing or platform.

(5) *Winders (winding stairways)*. Winders are permitted, provided that the width of the tread at a point not more than 12 inches from the side where the treads are narrower is not less than 10 inches and the minimum width of any tread is not less than 6 inches. Within any flight of stairs, the greatest winder tread depth at the 12-inch walk line must not exceed the smallest by more than 3/8-inch. The continuous handrail required by paragraph (c)(3) of this section must be located on the side where the tread is narrower.

(6) *Spiral stairways*. Spiral stairways are permitted provided the minimum width is a minimum 26 inches with each tread having 7-1/2-inch minimum tread width at 12 inches from

the narrow edge. All treads must be identical, and the rise must be no more than 9-1/2 inches.

Minimum headroom of 6 feet, 6 inches must be provided.

(7) *Circular stairways.* Circular stairways must have a tread depth at a point not more than 12 inches from the side where the treads are narrower of not less than 11 inches and the minimum depth of any tread must not be less than 6 inches. Tread depth at any walking line, measured a consistent distance from a side of the stairway, must be uniform as specified in paragraph (a)(2)(i) of this section.

(b) *Landings.* Every landing must have a minimum dimension of 36 inches measured in the direction of travel. Landings must be located as follows:

(1) There must be a floor or landing at the top and bottom of each stairway, except at the top of an interior flight of basement stairs, provided a door does not swing over the stairs.

(2) A landing or floor must be located on each side of an interior doorway and exterior doorway, to the extent the external stairway is designed by the home manufacturer and constructed in the factory, and the width of each landing must not be less than the door it serves. The maximum threshold height above the floor or landing must be 1-1/2 inches.

(c) *Handrails--(1) General.* A minimum of one handrail meeting the requirements of this section must be installed on all stairways consisting of four or more risers. Handrails must be securely attached to structural framing members. A minimum space of 1-1/2 inches must be provided between the adjoining wall surface and the handrail.

(2) *Handrail height.* Handrails must be installed between 34 inches and 38 inches measured vertically from the leading edge of the stairway treads except that handrails installed up to 42 inches high must be permitted if serving as the upper rails of guards required by paragraph (d) of this section.

(3) *Continuity*. Required handrails must be continuous from a point directly above the leading edge of the lowest stair tread to a point directly above the leading edge of the landing or floor surface at the top of the stairway. If the handrail is extended at the top of the stairway flight, the extension must parallel the floor or landing surface and must be at the same height as the handrail above the leading edges of the treads. If the handrail is extended at the base of the stair, it must continue to slope parallel to the stair flight for a distance of one tread depth, measured horizontally, before being terminated or returned or extended horizontally. The ends of handrails must return into a wall or terminate in a safety terminal or newel post.

(4) *Graspability*. Required handrails must, if circular in cross section, have a minimum 1-1/4-inch and a maximum 2-inch diameter dimension. Handrails with a noncircular cross section must have a perimeter dimension of at least 4 inches and not more than 6-1/4 inches (with a maximum cross-section dimension of not more than 2-1/4 inches). The handgrip portion of the handrail must have a smooth surface. Edges must have a minimum 1/8-inch radius. Handrails must be continuously graspable along their entire length except that brackets or balusters are not considered obstructions to graspability if they do not project horizontally beyond the sides of the handrail within 1-1/2 inches of the bottom of the handrail.

(5) *Required resistance of handrails*. Handrails must be designed to resist a load of 20 lb./ft applied in any direction at the top and to transfer this load through the supports to the structure. All handrails must be able to resist a single concentrated load of 200 lbs., applied in any direction at any point along the top, and have attachment devices and supporting structures to transfer this loading to appropriate structural elements of the building. This load is not required to be assumed to act concurrently with the loads specified in this section.

(d) *Guards*. (1) Porches, balconies, or raised floor surfaces located more than 30 inches above the floor or grade below must have guards not less than 36 inches in height. Open sides of stairs with a total rise of more than 30 inches above the floor or grade below must have guards

not less than 34 inches in height measured vertically from the nosing of the treads. Balconies and porches on the second floor or higher must have guards a minimum of 42 inches in height.

(2) Required guards on open sides of stairways, raised floor areas, balconies, and porches must have intermediate rails or ornamental closures that do not allow passage of a sphere 4 inches in diameter.

(i) The triangular openings formed by the riser, tread and bottom rail of a guard at the open side of the stairway must be of such a size that a sphere of 6 inches cannot pass through.

(ii) Guard systems must be designed to resist a load of 20 lb./ft applied in any direction at the top and to transfer this load through the supports to the structure. All guard systems must be able to resist a single concentrated load of 200 lb., applied in any direction at any point along the top and have attachment devices and supporting structures to transfer this loading to appropriate structural elements of the building. This load is not required to be assumed to act concurrently with the loads specified in this section.

(e) *Stairway illumination.* All interior and exterior stairways must be provided with a means to illuminate the stairways, including the landings and treads.

(1) Interior stairways must be provided with an artificial light source located in the immediate vicinity of each landing of the stairway. For interior stairs, the artificial light sources must be capable of illuminating treads and landings to levels not less than one (1) foot-candle measured at the center of treads and landings. The control and activation of the required interior stairway lighting must be accessible at the top and bottom of each stairway without traversing any steps.

(2) Exterior stairways designed by the home manufacturer and constructed in the factory must be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway. An artificial light source is not required at the top and bottom landing,

provided an artificial light source is located directly over each stairway section. The illumination of exterior stairways must be controlled from inside the home.

12. Amend § 3280.209 by

- a. Revising paragraph (a);
- b. Redesignating paragraphs (b) through (f) as paragraphs (c) through (g); and
- c. Adding a new paragraph (b).

The addition and revision read as follows:

**§ 3280.209 Smoke Alarm Requirements.**

(a) *Labeling.* Each smoke alarm required under paragraph (b) of this section must conform with the requirements of UL 217 (incorporated by reference, see § 3280.4), or ANSI/UL 268 (incorporated by reference, see § 3280.4), and must bear a label to evidence conformance. Combination smoke and carbon monoxide alarms shall be listed and must bear a label to evidence conformance with UL 217 and ANSI/UL 2034.

(b) *Combination alarms.* Combination smoke and carbon monoxide alarms shall be permitted to be used in lieu of smoke alarms. If installed, such alarms must meet location requirements for both smoke alarms and carbon monoxide alarms.

\* \* \* \* \*

13. Add § 3280.211 to read as follows:

**§ 3280.211 Carbon monoxide alarm requirements.**

(a) *Labeling.* Carbon monoxide alarms shall be listed and must bear a label to evidence conformance with ANSI/UL 2034 (incorporated by reference, see § 3280.4). Combination carbon monoxide and smoke alarms shall be listed and must bear a label to evidence conformance with ANSI/UL 2034 and UL 217 (incorporated by reference, see § 3280.4).

(b) *Required carbon monoxide alarm locations.* Carbon monoxide alarms must be installed in each home containing either a fuel burning appliance or designed by the home manufacturer to include an attached garage. Carbon monoxide alarms must be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms and in accordance with the alarm manufacturer's installation instructions. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm must be installed within the bedroom and in accordance with the manufacturer's installation instructions. Carbon monoxide alarms must be installed in conformance with NFPA 720 (incorporated by reference, see § 3280.4).

(c) *Interconnectivity.* Where more than one carbon monoxide alarm is required to be installed, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all the alarms installed.

(d) *Connection to power source.* Each carbon monoxide alarm must be powered from the electrical system of the home as the primary power source and a battery as a secondary power source.

(e) *Combination alarms.* Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms. When combination carbon monoxide and smoke alarms are used, they shall be installed to also comply with § 3280.209.

(f) *Basement applications.* For each home designed to be placed over a basement, the manufacturer must provide a carbon monoxide alarm for the basement and must install the electrical junction box for the installation of this carbon monoxide alarm for its interconnection with other alarms required by this section.

(g) *Testing.* Each required carbon monoxide alarm installed at the factory must be operationally tested, after conducting the dielectric test specified in § 3280.810(a), in accordance with the alarm manufacturer's instructions. A carbon monoxide alarm that does not function as

designed during the test and is not satisfactorily repaired so that it functions properly in the next retest must be replaced. Any replacement carbon monoxide alarm must be successfully tested in accordance with this section.

14. Add § 3280.212 to read as follows:

**§ 3280.212 Factory constructed or site-built attached garages.**

(a) When a manufactured home is designed for factory construction with an attached garage or is designed for construction of an attached site-built garage that is not self-supported, the manufacturer must design the manufactured home to accommodate all appropriate live and dead loads from the attached garage structure that will be transferred through the manufactured home structure to the home's support and anchoring systems.

(b) The design must specify the following home and garage characteristics including maximum width, maximum sidewall height, maximum roof slope, live and dead loads, and other design limitations or restrictions using loads provided by this Code.

(c) When a manufactured home is factory constructed with an attached garage or is constructed for the attachment of a site-built garage, provisions must be made to provide fire separation between the garage and the manufactured home.

(1) The garage must be separated from the manufactured home and its attic by not less than ½-inch gypsum board or equivalent applied to the garage side of the manufactured home, separation shall be from the underside of the floor to the underside of the roof deck and may be provided on-site as part of an On Site Completion of Construction approval. Garages beneath habitable rooms must be separated from all habitable rooms by 5/8-inch, Type X gypsum board or equivalent. Where the separation is a floor ceiling assembly, the structure supporting the separation must also be protected by not less than 1/2-inch gypsum board or equivalent. The design approval and the manufacturer's installation instructions must also include provision for



equivalent vertical or horizontal separation between the garage and the manufactured home as appropriate.

(2) [Reserved]

(d) Openings from a garage directly into a room designated for sleeping purposes are not permitted.

(e) Other openings between the garage and the manufactured home must:

(1) Be equipped with solid wood doors not less than 1-3/8 inch in thickness, or solid or honeycomb steel doors not less than 1-3/8 inch in thickness, or 20-minute fire-rated doors, and all doors shall be of the self-closing type; and

(2) Be in addition to the two exterior doors required by § 3280.105.

(f) Ducts penetrating the walls or ceilings separating the manufactured home from the garage must be constructed of a minimum No. 26 gauge steel or other approved material and must have no openings into the garage.

(g) Installation instructions shall be provided by the home manufacturer that, in addition to addressing the fire separation as required in this section, shall identify acceptable attachment locations, indicate design limitations for the attachment of the garage including acceptable live and dead loads for which the home has been designed to accommodate, and provide support and anchorage designs as necessary to transfer all imposed loads to the ground in accordance with §§ 3285.301 and 3285.401 of this chapter.

(h) A site-built, self-supported garage is considered an add-on, per 3282.8(j)(1), that does not affect the ability of the manufactured home to comply with the Construction and Safety Standards. The design and construction of the garage is subject to state and or local authorities having jurisdiction.

15. Add § 3280.213 to read as follows:

**§ 3280.213 Factory constructed or site-built attached carports.**

(a) When a manufactured home is designed for factory construction with an attached carport or is designed for construction of an attached site-built carport, the manufacturer must design the manufactured home to accommodate all appropriate live and dead loads from the attached carport structure that will be transferred through the manufactured home structure to the home's support and anchoring systems.

(b) The design, including the home's installation instructions, must specify the following home and carport characteristics including maximum width, maximum sidewall height, live and dead loads, and other design limitations or restrictions.

(1) Alternatively, the manufacturer may provide, by design and home installation instructions, the maximum live and dead loads, and the applied loading locations, that the home is designed to resist from the carport, and other design limitations or restrictions.

(2) [Reserved].

(c) Homes may be designed with a factory-installed host beam (i.e., ledger board) or specific roof truss rail for the attachment of the carport to the exterior wall of the home. The host beam (i.e., ledger board) must be designed to transmit the appropriate live and dead loads at the interface between the carport and the manufactured home. In cases where the carport is designed to be supported by the roof truss overhang, the roof trusses must be designed to support the additional live and dead loads from the carport.

(1) Any portion of the host beam (i.e., ledger board) and all fasteners exposed to the weather shall be protected in accordance with § 3280.307.

(2) [Reserved].

(d) To ensure that the attachment of the carport does not interfere with roof or attic ventilation, the manufacturer must provide specific instructions to ensure continued compliance

with the manufactured home roof or attic ventilation requirements in accordance with § 3280.504(d).

(e) Installation instructions shall be provided by the home manufacturer that identify acceptable attachment locations, indicate design limitations for the attachment of the carport including acceptable live and dead loads for which the home has been designed to accommodate, and provide support and anchorage designs as necessary to transfer all imposed loads to the ground in accordance with §§ 3285.301 and 3285.401 of this chapter.

(1) The manufacturer must ensure that any anchoring system designs incorporating anchorage to resist combined shear wall and carport uplift loads are evaluated for adequacy to resist the combined loads, taking into consideration the limitations of the ground anchor test and certification.

(2) [Reserved].

(f) A site-built, self-supported carport is considered an add-on, as provided by § 3282.8(j)(1), that does not affect the ability of the manufactured home to comply with the standards. The design and construction of the carport is subject to state and or local authorities having jurisdiction.

16. In § 3280.305, revise paragraphs (a), (e)(1), (g)(6), and (h)(5) to read as follows:

**§ 3280.305 Structural design requirements.**

(a) *General.* Each manufactured home must be designed and constructed as a completely integrated structure capable of sustaining the design load requirements of this part and must be capable of transmitting these loads to stabilizing devices without exceeding the allowable stresses or deflections. Roof framing must be securely fastened to wall framing, walls to floor structure, and floor structure to chassis to secure and maintain continuity between the floor and chassis, so as to resist wind overturning, uplift, and sliding as imposed by design loads in this

part. In multistory construction, each story must be securely fastened to the story above and/or below to provide continuity and resist design loads in this part. Uncompressed finished flooring greater than 1/8 inch in thickness must not extend beneath load-bearing walls that are fastened to the floor structure.

\* \* \* \* \*

(e) \* \* \*

(1) Roof framing must be securely fastened to wall framing, walls to floor structure, and floor structure to chassis, to secure and maintain continuity between the floor and chassis in order to resist wind overturning, uplift, and sliding, and to provide continuous load paths for these forces to the foundation or anchorage system. The number and type of fasteners used must be capable of transferring all forces between elements being joined. In multistory construction, each story must be securely fastened to the story above and/or below to provide continuity and resist design loads in this section.

\* \* \* \* \*

(g) \* \* \*

(6) Bottom board material (with or without patches) must meet or exceed the level of 48 inch-pounds of puncture resistance as tested by the Beach Puncture Test in accordance with Standard Test Methods for Puncture and Stiffness of Paperboard, and Corrugated and Solid Fiberboard, ASTM D781-1968 (Reapproved 1973) (incorporated by reference, see § 3280.4). The material must be suitable for patches and the patch life must be equivalent to the material life. Patch installation instruction must be included in the manufactured home manufacturer's instructions. The bottom board material must be tight fitted against all penetrations.

(h) \* \* \*

(5) Portions of roof assemblies, including, but not limited to, dormers, gables, crickets, hinged roof sections, sheathing, roof coverings, underlayments, flashings, and eaves and overhangs are permitted to be assembled and installed on site in accordance with 24 CFR part 3282, subpart M, provided that the requirements in paragraphs (h)(5)(i) through (v) of this section are met.

(i) Approved installation instructions must be provided that include requirements for the following items:

(A) Materials, installation, and structural connections complying with this section;

(B) Installation and fastening of sheathing and roof coverings;

(C) Installation of appliance vent systems in accordance with § 3280.710;

(D) Installation of plumbing vents as required by § 3280.611; and

(E) Installation of attic ventilation in accordance with § 3280.504(c).

(ii) The installation instructions specified in paragraph (h)(5)(i) of this section must include drawings, details, and instructions as necessary to assure that the on-site work complies with the approved design.

(iii) The installation instructions specified in paragraph (h)(5)(i) of this section must provide for inspection of the work at the installation site. As necessary to ensure conformance, inspection panels may be required, or inspections may need to occur in stages that assure inspections are performed before any work is concealed. Such inspection procedures shall be addressed in the approved installation instructions.

(iv) Temporary weather protection must be provided per § 3280.307(e).

\* \* \* \* \*

17. Amend § 3280.307 by adding paragraph (e) to read as follows:

**§ 3280.307 Resistance to elements and use.**

\* \* \* \* \*

(e) Multi-section and attached manufactured homes (see subpart K of this part) are not required to comply with the factory installation of weather-resistant exterior finishes for those areas left open for field connection of the sections provided the following conditions are satisfied:

(1) Temporary weather protection for exposed, unprotected construction is provided in accordance with methods to be included in the approved design.

(2) Methods for on-site completion and finishing of these elements are included in the approved design.

(3) Complete installation instructions and the required materials for finishing these elements are provided.

18. In § 3280.504, add paragraph (a)(3) and revise paragraph (b) introductory text to read as follows:

**§ 3280.504 Condensation control and installation of vapor retarders.**

(a) \* \* \*

(3) In multi-story manufactured homes, the ceiling vapor retarder is permitted to be omitted when the story directly above is part of the same manufactured home.

(b) *Exterior walls.* Exterior walls must be provided with a system or method to manage moisture and vapor accumulation with one of the elements in paragraphs (b)(1) through (4) of this section. For purposes of the requirement in this paragraph (b), the fire separation wall between each attached manufactured home must be considered to be an exterior wall. See subpart K of this part

\* \* \* \* \*

19. Amend § 3280.506 as follows:

- a. Redesignate paragraphs (a), (b), and (c) as paragraphs (b), (c), and (d), respectively;
- b. Designate the introductory text as paragraph (a);
- c. In newly designated paragraph (a):
  - i. Remove “of this subpart;”
  - ii. Remove “figure 506” and add “figure 1 to this paragraph (a)” in its place; and
  - iii. Add a heading for the figure.
- d. In newly redesignated paragraph (b):
  - i. Remove the heading;
  - ii. Add a comma between “ventilation” and “and;”
  - iii. Remove “below” and add “in the table to this paragraph (b)” in its place; and
  - iv. Add a heading for the table; and
- e. Revise newly redesignated paragraph (c).

The revisions and additions to read as follows:

**§ 3280.506 Heat loss/heat gain.**

(a) \* \* \*

Figure 1 to Paragraph (a)

(b) \* \* \*

Table 1 to Paragraph (b)

\* \* \* \* \*

(c) To assure uniform heat transmission in manufactured homes, cavities in exterior walls, floors, and ceilings must be provided with thermal insulation. For insulation purposes, the

fire separation wall between each single family attached manufactured home shall be considered an exterior wall (see subpart K of this part).

\* \* \* \* \*

20. In § 3280.602, add alphabetically the definition for “Indirect waste receptor” to read as follows:

**§ 3280.602 Definitions.**

\* \* \* \* \*

*Indirect waste receptor* means a receptor that receives a discharge waste pipe that is not directly connected to a receptor but maintains a suitable air gap between the end of the pipe and the top of the drain.

\* \* \* \* \*

21. In § 3280.608, revise paragraph (b) to read as follows:

**§ 3280.608 Hangers and supports.**

\* \* \* \* \*

(b) *Piping supports.* Piping must be secured at sufficiently close intervals to keep the pipe in alignment and carry the weight of the pipe and contents. Unless otherwise stated in the standards incorporated by reference for specific materials at § 3280.604(a), or unless specified by the pipe manufacturer, horizontal plastic drainage piping must be supported at intervals not to exceed 4 feet and horizontal plastic water piping must be supported at intervals not to exceed 3 feet. Vertical drainage and water piping must be supported at each story height.

\* \* \* \* \*

22. In § 3280.609, revise paragraph (c)(1)(iii) and add paragraph (c)(1)(iv) to read as follows:



**§ 3280.609 Water distribution systems.**

\* \* \* \* \*

(c) \* \* \*

(1) \* \* \*

(iii) Relief valves must be provided with full-sized drains, with cross sectional areas equivalent to that of the relief valve outlet. The outlet of a pressure relief valve, temperature relief valve, or combination thereof, must not be directly connected to the drainage system. The discharge from the relief valve must be piped full size separately to the exterior of the manufactured home, not underneath the home, or to an indirect waste receptor located inside the manufactured home. Exterior relief drains shall be directed down and shall terminate between 6” and 24” above finished grade. Drain lines must be of a material listed for hot water distribution and must drain fully by gravity, must not be trapped, and must not have their outlets threaded, and the end of the drain must be visible for inspection.

(iv) Relief valve piping designed to be located underneath the manufactured home is not required to be installed at the factory provided the manufacturer designs the system for site assembly and also provides all materials and components including piping, fittings, cement, supports, and instructions for proper site installation.

\* \* \* \* \*

23. In § 3280.610, add headings to paragraphs (c)(1) and (4) and revise paragraph (c)(5) to read as follows:

**§ 3280.610 Drainage systems.**

\* \* \* \* \*

(c) \* \* \* (1) *General.* \* \* \*

\* \* \* \* \*

(4) *Size Requirement.* \* \* \*

(5) *Preassembly of drain lines.* Section(s) of the drain system, designed to be located underneath the manufactured home or between stories of the manufactured home, are not required to be factory installed when the manufacturer designs the system for site assembly and also provides all materials and components, including piping, fittings, cement, supports, and instructions necessary for proper site installation.

\* \* \* \* \*

24. Amend § 3280.611 as follows:

a. Remove the comma at the end of paragraph (c)(1)(i) and add a semicolon in its place; and

b. Revise paragraph (c)(1)(ii).

The revisions to read as follows:

**§ 3280.611 Vents and venting.**

\* \* \* \* \*

(c) \* \* \*

(1) \* \* \*

(ii) A 1 1/2 -inch diameter (min.) continuous vent or equivalent, indirectly connected to the toilet drain piping within the distance allowed in paragraph (c)(5) of this section for 3 inch trap arms through a 2-inch wet vented drain that carries the waste of not more than one fixture. Sections of the wet vented drain that are 3 inches in diameter are permitted to carry the waste of an unlimited number of fixtures; or

\* \* \* \* \*

25. In § 3280.612, amend paragraph (a) to read as follows:

**§ 3280.612 Tests and inspection.**

(a) *Water system.* All water piping in the water distribution system must be subjected to a pressure test. The test must be made by subjecting the system to air or water at 80 psi + or - 5 psi for 15 minutes without loss of pressure. The water used for the test must be obtained from a potable water source.

\* \* \* \* \*

26. Amend § 3280.705 by:

- a. Revising paragraph (c)(1);
- b. In paragraph (j), removing “shall” and add in its place “must” wherever it appears;
- c. Revising paragraphs (k), (l)(7), and (l)(8)(i); and
- d. Adding paragraph (l)(8)(iii).

The revisions and addition to read as follows:

**§ 3280.705 Gas piping systems.**

\* \* \* \* \*

(c) \* \* \*

(1) All points of crossover beneath the transportable sections must be readily accessible from the exterior of the home. In multi-story manufactured homes, the interconnections between stories must be accessible through a panel on the exterior or interior of the manufactured home.

\* \* \* \* \*

(k) *Identification of gas supply connections.* Each manufactured home must have permanently affixed to the exterior skin at or near each gas supply connection or the end of the pipe, a tag of 3 inches by 1 3/4 inches minimum size, made of etched, metal-stamped or

embossed brass, stainless steel, anodized or alclad aluminum not less than 0.020 inch thick, or other approved material [e.g., 0.005 inch plastic laminates], with the information shown in Figure 1 to this paragraph (k). The connector capacity indicated on this tag must be equal to or greater than the total Btu/hr rating of all intended gas appliances.

FIGURE 1 to §3280.705(k) -- Gas Supply Connection Identification Tag Information

<p>COMBINATION LP-GAS AND NATURAL GAS SYSTEM</p> <p>This gas piping system is designed for use of either liquefied petroleum gas or natural gas.</p> <p>NOTICE: BEFORE TURNING ON GAS BE CERTAIN APPLIANCES ARE DESIGNED FOR THE GAS CONNECTED AND ARE EQUIPPED WITH CORRECT ORIFICES. SECURELY CAP THIS INLET WHEN NOT CONNECTED FOR USE.</p> <p>When connecting to lot outlet, use a listed gas supply connector for manufactured homes rated at</p> <p><input type="checkbox"/> 100,000 Btu/hr or more; <input type="checkbox"/> 250,000 Btu/hr or more.</p> <p>Before turning on gas, make certain that all gas connections have been made tight, all appliance valves are turned off, and any unconnected outlets are capped.</p> <p>After turning on gas, test gas piping and connections to appliances for leakage with soapy water or bubble solution, and light all pilots.</p>
--

(1) \* \*

(7) *Hangers and supports.* All horizontal gas piping must be adequately supported by galvanized or equivalently protected metal straps or hangers at intervals of not more than 4 feet, except where adequate support and protection is provided by structural members. Vertical gas piping in multi-story dwelling units must be supported at intervals of not more than 6 feet. Solid iron- pipe connection(s) must be rigidly anchored to a structural member within 6 inches of the supply connection(s).

(8) \* \* \* (i) Before appliances are connected, piping systems must stand a pressure of three ± 0.2 psi gauge for a period of not less than ten minutes without showing any drop in pressure. Pressure must be measured with a mercury manometer or slope gauge calibrated so as to be read in increments of not greater than one-tenth pound, or an equivalent device. The source of normal operating pressure must be isolated before the pressure tests are made. Before a test is begun, the temperature of the ambient air and of the piping must be approximately the same, and constant air temperature must be maintained throughout the test.

\* \* \* \* \*

(iii) Where gas piping between transportable sections must be made on site, the installation instructions must contain provisions for onsite testing for leakage consistent with the provisions in paragraph (1)(8)(i) of this section.

27. In § 3280.708, revise paragraph (a)(1) introductory text to read as follows:

**§ 3280.708 Exhaust duct system and provisions for the future installation of a clothes dryer.**

(a) \* \* \* (1) All gas and electric clothes dryers must be exhausted to the outside by a moisture/lint exhaust duct and termination fitting. When the manufacturer supplies the clothes dryer, the exhaust duct and termination fittings must be completely installed by the manufacturer. If the exhaust duct system is subject to damage during transportation, or a field connection between transportable sections is required, complete factory installation of the exhaust duct system is not required when the following apply:

\* \* \* \* \*

28. In § 3280.709, revise paragraph (a) to read as follows:

**§ 3280.709 Installation of appliances.**

(a) The installation of each appliance must conform to the terms of its listing and the manufacturer's instructions. The manufactured home manufacturer must leave the appliance manufacturer's instructions attached to the appliance. Every appliance must be secured in place to avoid displacement. For the purpose of servicing and replacement, each appliance must be both accessible and removable.

(1) A direct vent space heating appliance is permitted to be shipped loose for on-site installation in a basement provided the following:

(i) The heating appliance is listed for the installation.

(ii) Approved installation instructions are provided that include requirements for completion of all gas and electrical connections and provide for the manufacturer's inspection and/or testing of all connections.

(iii) Approved instructions are provided to assure connection of the vent and combustion air systems in accordance with § 3280.710(b), and to provide for the manufacturer's inspection of the systems for compliance.

(iv) Approved installation and the manufacturer's inspection procedures are provided for the connection of the site-installed heating appliance to the factory-installed circulation air system and return air systems.

(2) The procedures must include revisions to assure compliance of the installed systems with § 3280.715.

\* \* \* \* \*

29. In § 3280.710, revise paragraph (d) to read as follows:

**§ 3280.710 Venting, ventilation, and combustion air.**

\* \* \* \* \*

(d) Venting systems of fuel-burning appliances must terminate at least three feet above any motor-driven air intake discharging into habitable rooms when located within ten feet of the air intake.

\* \* \* \* \*

30. Amend § 3280.802 by:

- a. Redesignating paragraphs (a)(4) through (41) as paragraphs (a)(5) through (42);
- b. Adding a new paragraph (a)(4); and
- c. Adding and reserving paragraph (b).

The additions read as follows:

**§ 3280.802 Definitions.**

\* \* \* \* \*

(a) \* \* \*

(4) *Attached accessory building or structure* means any awning, cabana, deck, ramada, storage cabinet, carport, windbreak, garage, or porch for which the attachment of such is designed by the home manufacturer to be structurally supported by the manufactured home.

\* \* \* \* \*

(b) [Reserved]

31. In § 3280.807, add paragraph (g) to read as follows:

**§ 3280.807 Fixtures and appliances.**

\* \* \* \* \*

(g) In bathrooms, ceiling-mounted lighting fixtures and wall-mounted lighting fixtures must not be controlled by the same switch.

32. In § 3280.810, revise paragraph (b) to read as follows:

**§ 3280.810 Electrical testing.**

\* \* \* \* \*

(b) *Additional testing.* Each manufactured home must be subjected to the following tests:

(1) An electrical continuity test to assure that metallic parts are effectively bonded;

(2) An operational test of all devices and utilization equipment, except water heaters, electric ranges, electric furnaces, dishwashers, clothes washers/dryers, and portable appliances, to demonstrate they are connected and in working order; and

(3) Electrical polarity checks to determine that connections have been made in accordance with applicable provisions of these standards and Article 550.17 of NFPA 70-2005 (incorporated by reference, see § 3280.4). Visual verification is an acceptable electrical polarity check.

**§ 3280.902 [Amended]**

33. In § 3280.902(b), remove “an *A* frame” and add in its place “a rigid substructure.”

34. Revise § 3280.903 to read as follows:

**§ 3280.903 General requirements for designing the structure to withstand transportation shock and vibration.**

(a) *General.* The manufactured home and its transportation system (as defined in § 3280.902(f)) must withstand the effects of highway movement such that the home is capable of being transported safely and installed as a habitable structure. Structural, plumbing, mechanical, and electrical systems must be designed to function after set-up. The home must remain weather protected during the transportation sequence to prevent internal damage.



(b) *Testing or analysis requirements.* Suitability of the transportation system and home structure to withstand the effects of transportation must be permitted to be determined by testing, or engineering analysis, or a combination of the two as required by paragraphs (b)(1) and (2) of this section.

(1) *Road tests.* Tests must be witnessed by an independent registered professional engineer or architect, manufacturer's IPIA or DAPIA, or by a recognized testing organization. Such testing procedures must be part of the manufacturer's approved design.

(2) *Engineering analysis.* Engineering analysis methods based on the principles of mechanics and/or structural engineering may be used to substantiate the adequacy of the transportation system to withstand in-transit loading conditions. As transportation loadings are typically critical in the longitudinal direction, analysis should, in particular, provide emphasis on design of longitudinal structural components of the manufactured home (e.g. main chassis girder beams, sidewalls, and rim joists, etc.). Notwithstanding, all structural elements necessary to the structural integrity of the manufactured home during in-transit loading are also to be evaluated (e.g. transverse chassis members and floor framing members, etc.).

(i)(A) The summation of the design loads in paragraphs (b)(2)(i)(A)(1) through (3) of this section may be used to determine the adequacy of the chassis in conjunction with the manufactured home structure to resist in-transit loading:

(1) Dead load, the vertical load due to the weight of all structural and non-structural components of the manufactured home at the time of shipment.

(2) Floor load, a minimum of 3 pounds per square foot.

(3) Dynamic loading factor,  $(0.25)[(b2iA) + (b2iB)]$ .

(B) However, the in-transit design loading need not exceed twice the dead load of the manufactured home.

(ii) To determine the adequacy of individual longitudinal structural components to resist the in-transit design loading, a load distribution based on the relative flexural rigidity and shear stiffness of each component may be utilized. For the purpose of loading distribution, the sidewall may be considered to be acting as a “deep beam” in conjunction with other load carrying elements in determining the relative stiffness of the integrated structure. Further, by proper pre-cambering of the chassis assembly, additional loading may be distributed to the chassis, and the remaining loading may be distributed to each of the load carrying members by the relative stiffness principle.

(iii) The analysis is also to include consideration for:

(A) Location of openings in the sidewall during transport and, when appropriate, provisions for reinforcement of the structure and/or chassis at the opening.

(B) Sidewall component member sizing and joint-splice analysis (i.e. top and bottom plates, etc.), and connections between load carrying elements.

35. In §3280.904, revise paragraphs (a), (b)(1) through (6) and (8) through (10) to read as follows:

**§3280.904 Specific requirements for designing the transportations system.**

(a) *General.* The transportation system must be designed and constructed as an integrated unit which is safe and suitable for its specified use. In operation, the transportation system must effectively respond to the control of the towing vehicle tracking and braking, while traveling at applicable highway speeds and in normal highway traffic conditions.

(b) *Specific requirements--(1) Drawbar.* The drawbar must be constructed of sufficient strength, rigidity, and durability to safely withstand those dynamic forces experienced during highway transportation. It must be securely fastened to the manufactured home substructure.

(2) *Coupling mechanism.* The coupling mechanism (which is usually of the socket type) must be securely fastened to the drawbar in such a manner as to assure safe and effective transfer of the maximum loads, including dynamic loads, between the manufactured home structure and the hitch-assembly of the towing vehicle. The coupling must be equipped with a manually operated mechanism so adapted as to prevent disengagement of the unit while in operation. The coupling must be so designed that it can be disconnected regardless of the angle of the manufactured home to the towing vehicle.

(3) *Chassis.* The chassis, in conjunction with the manufactured home structure, must be constructed to effectively sustain the design loads. The integrated structure must be capable of ensuring the integrity of the complete manufactured home and ensuring against excessive deformation of structural or finish members.

(4) *Running gear assembly--(i) Design criteria.* The design load used to size running gear components must be the gross static dead weight minus the static tongue weight supported by the drawbar. Running gear must be designed to accept shock and vibration, both from the highway and the towing vehicle and effectively dampen these forces so as to protect the manufactured home structure from damage and fatigue. Its components must be designed to facilitate routine maintenance, inspection, and replacement.

(ii) *Location.* Location of the running gear assembly must be determined by documented engineering analysis, taking into account the gross weight (including all contents), total length of the manufactured home, the necessary coupling hitch weight, span distance, and turning radius. Weights shall be checked with the home in a level position ready for transport. The coupling weight must be not less than 12 percent nor more than 25 percent of the gross weight.

(5) *Spring assemblies.* Spring assemblies (springs, hangers, shackles, bushings, and mounting bolts) must be capable of supporting the running gear design loads, without exceeding maximum allowable stresses for design spring assembly life as recommended by the spring

assembly manufacturer. The capacity of the spring system must ensure that under maximum operating load conditions, sufficient clearance is maintained between the tire and manufactured home's frame or structure to permit unimpeded wheel movement and for changing tires.

(6) *Axles*. Axles, and their connecting hardware, must be capable of supporting the static running gear design loads, without exceeding maximum allowable design axle loads as recommended by the axle manufacturer. The number and load capacity necessary to provide a safe tow must not be less than those required to support the design load.

(i) *Recycled axles*. Before reuse, all axles, including all component parts, must be reconditioned as required pursuant to a program accepted by a nationally recognized testing agency. The recycling program must be approved, and the axles must be labeled by a nationally recognized testing agency. Recycled axles and their components must utilize compatible components and be of the same size and rating as the original equipment.

(ii) [Reserved].

\* \* \* \* \*

(8) *Tires, wheels, and rims*. Tires, wheels, and rims must be selected, sized, and fitted to axles so that static dead load supported by the running gear does not exceed the load capacity of the tires. Tires must not be loaded beyond the load rating marked on the sidewall of the tire or, in the absence of such a marking, the load rating specified in any of the publications of any of the organizations listed in Federal Motor Vehicle Safety Standard (FMVSS) No. 119 in 49 CFR 571.119, S5.1(b). Wheels and rims must be sized in accordance with the tire manufacturer's recommendations as suitable for use with the tires selected.

(i) *Inflation pressure*. The load and cold inflation pressure imposed on the rim or wheel must not exceed the rim and wheel manufacturer's instructions even if the tire has been approved

for a higher load or inflation. Tire cold inflation pressure limitations and the inflation pressure measurement correction for heat must be as specified in 49 CFR 393.75(h).

(ii) *Used tires.* Whenever the tread depth is at least 1/16 inch as determined by a tread wear indicator, used tires are permitted to be sized in accordance with 49 CFR 571.119. The determination as to whether a used tire is acceptable must also include a visual inspection for thermal and structural defects (e.g., dry rotting, excessive tire sidewall splitting, etc.). Used tires with such structural defects must not be installed on manufactured homes.

(9) *Brake assemblies--(i) Braking axles.* The number, type, size, and design of brake assemblies required to assist the towing vehicle in providing effective control and stopping of the manufactured home must be determined and documented by engineering analysis. Those alternatives listed in § 3280.903(c) may be accepted in place of such an analysis. Unless substantiated in the design to the satisfaction of the approval agency by either engineering analysis in accordance with § 3280.903(a)(1) or tests in accordance with paragraph (b)(9)(ii) of this section, there must be a minimum of two axles equipped with brake assemblies on each manufactured home transportable section.

(ii) *Stopping distance.* Brakes on the towing vehicle and the manufactured home (a drive-away/tow-away) must be capable of ensuring that the maximum stopping distance from an initial speed of 20 miles per hour does not exceed 35 feet in accordance with 49 CFR § 393.52(d) for 2 or fewer vehicles in drive away or tow away operation.

(iii) *Electrical brake wiring.* Brake wiring must be provided for each brake. The brake wire must not be less than the value specified in the brake manufacturer's instructions. Aluminum wire, when used, must be provided with suitable termination that is protected against corrosion.

(10) *Lamps and associated wiring.* Stop lamps, turn signal/lamps, and associated wiring must meet the appropriate sections of FMVSS No. 108 in 49 CFR 571.108, which specify the performance and location of these lamps and their wiring. The manufacturer may meet these requirements by utilizing a temporary light/wiring harness, which has components that meet the FMVSS No. 108. The temporary harness is permitted to be provided by the manufactured home transportation carrier.

36. Add subpart K to read as follows:

### **Subpart K – Attached Manufactured Homes and Special Construction Considerations**

Sec.

3280.1001 Scope.

3280.1002 Definitions.

3280.1003 Attached manufactured home unit separation.

3280.1004 Exterior walls.

3280.1005 Electrical service.

3280.1006 Water service.

#### **§ 3280.1001 Scope.**

This subpart covers the requirements for attached manufactured homes and other related construction associated with manufactured homes not addressed elsewhere within this part.

#### **§ 3280.1002 Definitions.**

The following definitions are applicable to this subpart only:

*Attached manufactured home.* Two or more adjacent manufactured homes that are structurally independent from foundation to roof and with open space on at least two sides, but which have the appearance of a physical connection (i.e. zero lot line).

*Fire separation wall.* An adjoining wall of a manufactured home that separates attached manufactured homes with a fire separation distance of less than three feet.

#### **§ 3280.1003 Attached manufactured home unit separation.**

(a) *Separation requirements.* (1) Attached manufactured homes shall be separated from each other by a fire separation wall of not less than 1-hour fire-resistive rating with exposure from both sides on each attached manufactured home unit when rated based on tests in accordance with ASTM E119-05 (incorporated by reference, see § 3280.4).

(2) Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

(b) *Fire separation penetrations.* (1) Fire rated fire separation walls must not contain through penetrations or openings.

(2) Membrane penetrations for electrical boxes are permitted on the living side of the wall under the following conditions:

(i) Steel electrical boxes not exceeding 16 square inches may be installed provided that the total area of such boxes does not exceed 100 square inches in any 100 square feet wall area. Steel electrical boxes in adjacent fire separation walls must be separated by a horizontal distance of not less than 24 inches.

(ii) Listed 2-hour fire-resistant nonmetallic electrical boxes are installed in accordance with the listings.

(iii) No other membrane penetrations are allowed.

(c) *Continuity of walls.* The fire separation walls for single-family attached dwelling units must be continuous from the foundation to the underside of the roof sheathing, deck, or slab and must extend the full length of the fire separation walls.

(d) *Parapets.* (1) Parapets constructed in accordance with paragraph (d)(2) of this section must be provided for attached manufactured homes as an extension of fire separation walls in accordance with the following:

(i) Where roof surfaces adjacent to the fire separation walls are at the same elevation, the parapet must extend not less than 30 inches above the roof surfaces.

(ii) Where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is not more than 30 inches above the lower roof surface, the parapet must not extend less than 30 inches above the lower roof surface.

(A) Parapets must be provided unless roofs are of a Class C roof covering and the roof decking or sheathing is of noncombustible materials or approved fire-retardant-treated wood for a distance of four feet on each side of the common fire separation walls; or one layer of 5/8 inch Type X gypsum board or equivalent is installed directly beneath the roof decking or sheathing for a distance of four feet on each side of the fire separation walls.

(B) A parapet must not be required where roof surfaces adjacent to the common walls are at different elevations and the higher roof is more than 30 inches above the lower roof. The fire separation wall construction from the lower roof to the underside of the higher roof deck must not have less than a 1-hour fire-resistive rating. The wall must be rated for exposure from both sides.

(2) Parapets must have the same fire resistance rating as that required for the supporting wall or walls. On any side adjacent to a roof surface, the parapet must have noncombustible faces for the uppermost 18 inches, to include counter flashing and coping materials. Where the roof slopes toward a parapet at slopes greater than 2/12 (16.7 percent slope), the parapet must extend to the same height as any portion of the roof within a distance of three feet, but in no case will the height be less than 30 inches.

#### **§ 3280.1004 Exterior walls.**

(a) The requirements of § 3280.504 for condensation control and vapor retarder installation are required to be provided on each fire separation wall of each attached manufactured home.



(b) The requirements of § 3280.506 for heat loss/gain insulation apply to the fire separation wall on each attached manufactured home.

**§ 3280.1005 Electrical service.**

(a) Each attached manufactured home must be supplied by only one service.

(b) Service conductors supplying one manufactured home must not pass through the interior of another manufactured home.

**§3280.1006 Water service.**

(a) Each manufactured home must have an individual water supply that will service only that unit.

(b) Each manufactured home must have a hot water supply system that will service only that unit.

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

37. The authority citation for part 3282 is revised to read as follows:

**Authority:** 15 U.S.C. 2697, 28 U.S.C. 2461 note, 42 U.S.C. 3535(d), 5403, and 5424.

38. In § 3282.7, redesignate paragraphs (d) through (nn) as (e) through (oo) and add new paragraph (d) to read as follows:

**§ 3282.7 Definitions.**

\* \* \* \* \*

(d) *Attached accessory building or structure* means any awning, cabana, deck, ramada, storage cabinet, carport, windbreak, garage, or porch for which the attachment of such is designed by the home manufacturer to be structurally supported by the manufactured home.

\* \* \* \* \*

39. In § 3282.8, revise paragraph (j) to read as follows:

**§3282.8 Applicability.**

\* \* \* \* \*

(j) *Add-on.* An add-on including an attached accessory building or structure added by the retailer or some party other than the manufacturer (except where the manufacturer acts as a retailer) as part of a simultaneous transaction involving the sale of a new manufactured home, is not governed by the standards and is not subject to the regulations in this part except as identified in this section and part 3280 of this chapter. The addition of any add-on or attached accessory building or structure must not affect the ability of the manufactured home to comply with the standards. If the addition of an add-on or attached accessory building or structure causes the manufactured home to fail to conform to the standards, then sale, lease, and offer for sale or lease of the home are prohibited until the manufactured home is brought into conformance with the standards.

(1) With the exception of attached accessory buildings or structures, add-ons must be structurally independent and any attachment between the home and the add-on must be for weatherproofing or cosmetic purposes only.

(2) If an attached accessory building or structure is not structurally independent all the following must be met for attachment to the manufactured home:

(i) Manufactured home must be designed and constructed to accommodate all imposed loads, including any loads imposed on the home by the attached accessory building or structure, in accordance with part 3280 of this chapter.

(ii) Data plate must indicate that home has been designed to accommodate the additional loads imposed by the attachment of the attached accessory buildings or structures and must identify the design loads.

(iii) Installation instructions shall be provided by the home manufacturer which identifies acceptable attachment locations, indicates design limitations for the attached accessory building or structure including acceptable live and dead loads for which the home has been designed to accommodate and provide support and anchorage designs as necessary to transfer all imposed loads to the ground in accordance with part 3285 of this chapter.

\* \* \* \* \*

40. In § 3282.14, revise paragraph (a) introductory text to read as follows:

**§ 3282.14 Alternative construction of manufactured homes.**

(a) *Policy.* In order to promote the purposes of the Act, the Department will permit the sale or lease of one or more manufactured homes not in compliance with the standards under circumstances wherein no affirmative action is needed to protect the public interest. An add-on, including an attached accessory building or structure which does not affect the performance and ability of the manufactured home to comply with the standards in accordance with § 3282.8(j), is not governed by this section. The Department encourages innovation and the use of new technology in manufactured homes. Accordingly, HUD will permit manufacturers to utilize new designs or techniques not in compliance with the standards in cases:

\* \* \* \* \*

41. In § 3282.601, add paragraph (c) to read as follows:

**§ 3282.601 Purpose and applicability.**

\* \* \* \* \*

(c) *Exception.* An add-on or attached accessory building or structure which does not affect the performance and ability of the manufactured home to comply with the standards in accordance with § 3282.8(j) is not governed by this section.

42. In § 3282.602, revise paragraph (a)(2) to read as follows:

**§ 3282.602 Construction qualifying for on-site completion.**

(a) \* \* \*

(2) Any work required by the home design that cannot be completed in the factory, or when the manufacturer authorizes the retailer to provide an add-on to the home during installation, when that work would take the home out of conformance with the construction and safety standards and then bring it back into conformance;

\* \* \* \* \*

**PART 3285—MODEL MANUFACTURED HOME INSTALLATION STANDARDS**

43. The authority citation for part 3285 continues to read as follows:

**Authority:** 42 U.S.C. 3535(d), 5403, 5404, and 5424.

44. In § 3285.5, add alphabetically the definition for “Attached accessory building or structure” to read as follows:

**§ 3285.5 Definitions.**

\* \* \* \* \*

*Attached accessory building or structure* means any awning, cabana, deck, ramada, storage cabinet, carport, windbreak, garage, or porch for which the attachment of such is designed by the home manufacturer to be structurally supported by the manufactured home.

\* \* \* \* \*

45. In § 3285.903, revise paragraph (c) to read as follows:

**§ 3285.903 Permits, alterations, and on-site structures.**

\* \* \* \* \*

(c) *Installation of an add-on or attached accessory building or structure.* Each attached accessory building or structure or add-on is designed to support all of its own live and dead loads, unless the attached accessory building or structure is otherwise included in the installation instructions or designed by a registered professional engineer or registered architect in accordance with this part.

Dana T. Wade  
Assistant Secretary for Housing  
Federal Housing Commissioner  
**[Billing Code 4210-67]**

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