Comments on the HUD Proposed Rule for:
Model Manufactured Home Installation Standards

Date: June 27, 2005

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The State of Colorado, Division of Housing (CDOH), is a HUD fully approved SAA and IPIA, which also administers the Colorado Manufactured Housing Installation Program and Manufactured home Dealer Registration Program. The following comments are based on the Federal Manufactured Home program requirements and our experiences.

24 CFR 3280.2 defines "Federal manufactured home construction and safety standard" as "a reasonable standard for the construction, design, and performance of a manufactured home which meets the needs of the public including the need for quality, durability, and safety." 24 CFR 3280.11 (c) requires the certification label to read "As evidenced by this label…this manufactured home…is constructed in conformance with the Federal manufactured home construction and safety standards in effect on the date of manufacture." 24 CFR 3282.251 (a) sets out dealer/distributor responsibilities and states "It prohibits the sale, lease…of manufactured homes known by the distributor or dealer not to be in conformance with the standards…" 24 CFR 3282.252 (b) states "Completion of a retail sale will be at the time the dealer completes set-up of the manufactured home…"

Based on the above, CDOH believes that the Model Manufactured Home Installation Standards should incorporate the following logic:

1. Only a single-wide home truly meets the manufactured home construction and safety standards when it leaves the factory.
2. Dealers and distributors should know that any multi-section home is not in conformance with the manufactured home construction and safety standards.
3. The non-compliant home may not be sold until it is in conformance with the manufactured home construction and safety standards, which will occur when the home is properly set-up.
4. The sale of the home can be completed at the time the dealer/distributor properly completes the set-up.
5. The dealer/distributor may only sell a multi-section home when set-up is included.

CDOH believes that requiring the dealer to take responsibility for the home set-up and compliance with the manufactured home construction and safety standards of new multi-section manufactured homes has the following benefits:

1. Greater assurance that the Federal requirement for the construction, design, and performance of a manufactured home which meets the needs of the public including the need for quality, durability, and safety will be met.
2. Reduced manufacturer liability by ensuring a home sale cannot be completed until the home is in compliance with the manufactured home construction and safety standards.
3. Reduced consumer complaints by having the dealer responsible for compliance with the manufactured home construction and safety standards in the set-up prior to completing the sale of multi-section homes.
4. Improved public perception and acceptance of manufactured homes due to the elimination of significant problems by ensuring the sale is not completed until the home is in compliance with the manufactured home construction and safety standards.
5. Increased industry reputation and manufactured home demand due to the elimination of significant problems by ensuring compliance prior to the completion of the sale.
6. Simplifying and expanding manufacturing opportunities for design/construction innovations that require on-site completion by ensuring compliance prior to the completion of the sale.

CDOH urges all involved parties to consider the reality that when a consumer has a complaint with a manufactured home, it is irrelevant to them who is at fault. The standard refrain that CDOH hears every day from consumers is "I have real problems with my (insert appropriate adjectives and manufacturers name) home." HUD and the manufactured housing industry have a unique opportunity to firmly establish manufactured homes as a viable, low risk, safe, and affordable housing alternative for American consumers by ensuring that these homes are indeed safe and durable through compliance with the manufactured home construction and safety standards before home sales are completed.

In addition, CDOH believes the rule should allow for modifications of the technical installation provisions based on the manufacturer's approved installation instructions. This provision would allow for industry installation innovation and new technologies to be incorporated over time without requiring federal rule making.

In conclusion, CDOH believes that the proposed Model Manufactured Home Installation Rule is deficient as noted above. CDOH also believes that HUD and the manufactured housing industry have a duty to American consumers in taking full advantage of the present opportunity to ensure consumer satisfaction and prosperity by requiring construction and safety standard compliance prior to completion of the home sale.

FIRST STATE MANUFACTURED HOUSING
ASSOCIATION

June 17, 2005

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Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410-0600

RE: Docket No. FR-4928-P-01; HUD 2005-006
RIN Number2502-A125
Model Manufactured Home Installation Standards

Dear Regulator:

Manufactured housing has a significant role in the affordable housing market for Delaware; consequently, Sussex County attributes 25% of homeownership to manufactured housing. I am very concerned about the impact on workforce housing based upon your rule change for placement of footings in freezing climates. This is contradictory to your previous rule where insulated foundation systems may permit footings at grade in frost areas.

As I recall, MHCC draft model standard included insulated foundations as a method to not have pier footings extend to the frost depth line. This has been deleted and replaced with "any system designed by a registered PE and conforming to ASCE 32". This mandatory reference to ASCE 32 would eliminate any type of insulated skirting system being used to permit pier footings to be above the frost line.

As you may know, Delaware has one of the highest (77%) rates of homeownership. Manufactured housing is a vital portion of the equation. Escalating real estate values as well as increasing regulatory barriers impacts the low to moderate income as well as the live near your work initiatives in the First State. The proposed rule regarding frost depth and foundations will definitely impact the cost especially when a more conservative system for installation will accomplish a quality "set".

Equally important, Delaware has milder climates and does experience frost and freezing; however, there are few reports of frost heave issues. The ideal goal is to protect from the effects of frost heave; however, the proposed new rule is excessive and unwarranted, particularly in our region. To this end, we ask that you revisit the rule and suggest a change to include: "ASCE-32" optional.

Sincerely,

Ruth Briggs King

Ruth Briggs King
Executive Director

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June 22, 2005

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RE: Docket No. FR-4928-P-01
HUD-2005-0006
RIN 2502-A125
Model Manufactured Home
Installation Standard

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410

To Whom It May Concern:

I am writing on behalf of the 400 members of the Minnesota Manufactured Housing Association (MMHA) to offer comments on the Department's Proposed Rule related to Model Manufactured Home Installation Standards.

The MMHA was formed in 1951 and represents nearly 400 businesses, including manufactured home builders, installers, model home sales centers, land lease communities, banks, lenders, and mortgage companies, developers, and suppliers to the manufactured home industry. The Association works to promote quality housing that is affordable, encourages a level playing field in the public policy arena and educates its members on new home building technologies and best industry practices. It sponsors seminars and workshops, assists members with local zoning and building code concerns; provides updates on state and federal law changes, new regulations, and offers continuing education opportunities for licensed residential building contractors and real estate brokers. Over 200,000 Minnesotan's reside in a manufactured home.

Briefly, today's manufactured homes are the nation's leading provider of non-subsidized affordable housing and account for nearly 15 percent of all new single-family homes sold in Minnesota. The industry in Minnesota employs 3,000 workers at 1,500 mostly small businesses, and has an economic impact of approximately $500 million on the state's economy. Well over eighty-five percent of the nearly 2000 new manufactured homes sold in the state last year were affixed to real property and financed with conforming mortgages. For those homebuyers unable to afford their own lot, the remaining 20 percent of the new manufactured homes were placed in a land lease manufactured home community.

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Manufactured homes are meeting an important need for affordable housing not only in Minnesota, but also throughout the nation. As a result, more and more people are recognizing the advantages today's manufactured homes have to offer. Manufactured homes are often times the lowest rung on the homeownership ladder as a viable option for workforce housing. For thousands of Minnesotans, particularly lower-income people and underserved populations, manufactured housing represents the difference between joining the ranks of those realizing the American dream of homeownership and remaining perpetual renters. It was most encouraging when the Congress broadened the language in the Manufactured Housing Improvement Act of 2000 to include in the "Purposes" part a focus on retaining the affordability of manufactured homes, "(1) to protect the quality . . . and affordability of manufactured homes; (2) to facilitate the availability of affordable manufactured homes and to increase homeownership for all Americans; . . . (4) to encourage innovative and cost-effective construction techniques 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."

One of the critical elements that set the Manufactured Home Construction and Safety Standards a part from other recognized residential building codes is its being a "performance based" code, allowing factory-builders to take advantage of new construction technologies and design innovations in a timely manner to more cost efficiently meet the required outcomes of the code. In this regard, the MMHA has several concerns with the Proposed Rule.

On page 21529 and 21530 for figures "A" and "B" of 3285.306; the figures indicate that a 2-inch thick steel or hardwood cap may be used. It is not clear to the MMHA where an installer would obtain a 2-inch steel cap? The wording should indicate a 2-inch thick hardwood or ½ inch steel cap may be used.

On page 21536, under proposed rule change 3285.312 (c) (3), the suggested wording, "with acceptable engineering practice ~~and~~ or ASCE/SEI 32-01." The way the section is currently drafted it would require all engineered designs to follow the ASCE standard and does not allow for other types of designs and foundation systems. Making this change would be consistent with all other aspects of the manufactured home insofar as allowing for a performance-based standard for the installation of the home.

On pages 21528-21529; 3285.306(b)-(c) Mortared Pier Configurations; these sections for pier configurations over 36 inches in height require a mortared assembly unless otherwise specified in the manufacturer's instructions. This is completely opposite of what was submitted by the MHCC. The MHCC stated that mortar is not required for double-stacked piers unless required by the manufacturer. This requirement could conceivably cause unnecessary mortared piers if the manufacturer's manual is silent on whether mortar is required, and then the model installation standard would require mortar in all instances. This same concern also applies to one caption in Figure B to §3285.306. In all likelihood, a pier greater than 80" in height will require a mortared assembly. However, that is something that may not be in the manufacturer's instructions since a registered design professional (PE) can determine support system

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design. The last sentence of this section should be deleted as it serves no useful purpose and the PE design will specify whether mortar is required or not.

On pages 21502, 21510 and 21512; 3285.312(c) Placement of Footings in Freezing Climates; The MHCC draft model installation standard included insulated foundations as a method to not have pier footings extend to the frost line depth. This can be found in the MHCC draft model standard at Section 6.3.2.3. The basic intent was to include insulated skirting as an insulated foundation system, thus the reason the MHCC draft included a provision for cross-ventilation of the space under the home. In the proposed rule at §3285.312(c)(3), this statement was deleted and replaced with any system must be designed by a registered PE and conform to ASCE 32. This mandatory reference to ASCE 32 may effectively eliminate any type of insulated skirting system from being used to permit pier footings to be above the frost line.

By requiring a PE design (acceptable), and to make any system subject to ASCE 32 requirements (not acceptable), essentially eliminates insulated skirting materials from ever being used. ASCE 32 is for foundation systems composed of a basement, a slab, or a crawl space with a perimeter foundation wall. Insulated skirting, with typical piers and footings, may not be applicable to ASCE 32. There is no problem with ASCE 32 being used as an optional reference standard. Also, if using §3285.312(c)(2), for slab systems, ASCE 32 is also required for conformance. ASCE 32 will require vertical and horizontal insulation materials below grade. There is no rational reason, however, to prohibit the manufacturer's development of such designs and instructions in preference to registered engineers who may be less familiar with the home than is the manufacturer. The reasoning applies to similar provisions regarding basement sets and permanent foundations. We believe that this section should be modified to state: ".....must be designed by the manufacturer or by a registered professional engineer....." As an alternative to making the ASCE 32 an optional reference standard or revising §3285.312(c) to the original MHCC language submitted on December 2003, the MMHA would support the following performance-based language as a substitute, "Footings or foundation systems placed in freezing climates must be designed and installed using methods and practices that prevent the effects of frost heave in accordance with the manufactured home design and the requirements of the Manufactured Home Construction and Safety Standards (Part 3280)."

Under §3285.404, it is possible for ground anchors not to be installed below frost line. The model standard permits footings to be located above frost line by §3285.312(c). One can use a floating slab or insulated foundation system and have footings above frost line. If the footings which bear the vertical loads can be above frost line, then why would the anchoring system not be able to do the same? The longest ground anchor produced is 6 feet long, and in many areas of the country, it may be next to impossible to install them in all soil classifications. There should be a reference to §3285.312(c), in which the approved alternate anchoring system may be included as part of a listed or labeled foundation support system (floating slab or insulated foundation). Footnote 1 of 3285.310 Figure A requires all footings to extend below frost depth. This is contradictory to §3285.312(c), where insulated foundation systems may permit footings at grade in frost areas. The footnote should reference section §3285.312(c) for footing depths. This same comment also applies to Figure B.

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Section 3285.314 should state what is being referred to under this section. The described text of the proposed rule seems to be more in line with §3285.314(b). The first two sentences of this section are mainly commentary and provide no information on how or what to use when designing permanent foundation support systems for HUD Code homes. They should be deleted in their entirety. The first is in conflict with HUD's preemption for default states to not require more stringent requirements than that contained in the model standard. The model standard should make no mention of anything concerning how mortgage lenders or others can establish financing eligibility requirements for permanent foundations. This is for the financial institutions to decide and this standard needs to stay focused on the MHIA's premise, to provide a model installation standard. Financing options for the model standard are outside the scope of the MHIA and should be deleted.

The original MHCC recommendation stated the obvious. "Designs for permanent foundations (such as basements, crawl spaces, or load-bearing perimeter foundations) may be permitted to be obtained from the home manufacturer, or designed by a registered professional engineer or architect, and constructed in accordance with local building code requirements". This is the proper performance-based language for any section on permanent foundations.

Permanent foundation requirements would be specific to the installation site in question, see page 21509. With an approved state-based installation program, the LAHJ will require the permanent foundation systems to meet the local governing building codes. This has been the case for years and there is no compelling reason to change the current path. HUD's enforcement of an installation program in default states should provide the same. The MHCC draft provided the mechanism to cover this topic. It stated that <u>when</u> a permanent foundation system is contemplated, the design would need to follow accepted engineering practice, be designed by the manufacturer or professional engineer, and in conformance with local governing building codes. This would seem appropriate to re-insert this language in §3285.314 to alleviate the concern.

With Minnesota having a significant depth to its frost line, by not allowing for engineered designs will have the consequence of adding thousands of dollars in costs to the purchase price of homes sited in manufactured home land-lease communities. The digging required for the installation of below frost footings or a frost-free foundation meeting the ASCE/SEI 32-01 standard will require the homeowner to also pay for the costs of relocating any underground infrastructure such as gas lines, water and sewer lines, or electrical service whenever a home's frost-free foundation system intersects the infrastructure. As drafted, the Proposed Rule would result in a substantial economic burden to the 1,200 Minnesota businesses licensed as manufactured home parks. The additional cost to a homebuyer for frost-free foundation system built to the ASCE/SEI 32-01 standard for a 1,500 square foot manufactured home in Minnesota would be at least $3,000 for a below-frost pier system and at least $6,000 for a concrete floating slab. There would also be the additional costs resulting from either the relocation of, or damage and disruption to, the underground utility infrastructure such as water and sewer lines, electric supply lines, cable and telephone lines. Many of Minnesota's 1,200 land-lease communities were built in the 1950's and 1960's when no documentation or

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schematics of the infrastructure was required. Approximately 50,000 land-lease manufactured home sites fall under the compliance of the Proposed Rule. Additionally, Minnesota Statute 327.20 subd.1 (3) establishes minimum set-back requirements for each manufactured home and enables municipalities to impose their own more stringent requirements as a condition of approving the development, thus manufactured home land-lease communities do not have any flexibility in being able to shift a home even a few inches on a lot to avoid the intersection of the frost-free foundation system with the existing infrastructure.

The introduction of frost-free foundation systems to manufactured home communities will require state mandated lease agreements to be modified to reflect who the responsible party will be if a home's concrete slab needs to be removed for emergency repairs or maintenance work to the park's infrastructure beneath the home. Since many of the State's land lease communities were developed pre-1980, there are not individual shut-off valves for each home site so that whenever a new frost-free foundation system is installed, the entire property will be without water/sewer service during the work done at one home site. Most of Minnesota's 1,200 manufactured home communities are small businesses, struggling to keep their vacancies low; they will likely amend their existing lease agreements and application criteria to only allow pre-owned manufactured homes that do not have to comply with the new Proposed Standard for prescriptive frost-free foundations. An unintended consequence of the Proposed Standard as drafted would be to reduce the already short supply of home sites for prospective buyers of new manufactured homes.

On page 21512; 3285.402; HUD modified the MHCC draft standard with regard to galvanizing of ground anchors, anchor equipment and stabilizing plates. This section requires ground anchors to be zinc-coated in all instances. This deviates from the HUD Code in that it requires anchoring equipment to have a resistance to weather deterioration <u>at least equivalent</u> to that provided by a coating of zinc on steel of not less than 0.30 oz/ft^2. This would preclude other forms of known corrosion protection from being used in lieu of galvanized anchors. Stainless steel, epoxy coatings, and even mill galvanizing are acceptable methods of corrosion protection in the site-building industry. Secondly, the problem is that imported (foreign) anchors are less expensive than USA-made ground anchors with the same type of zinc galvanizing. We ask the question of HUD if the economics of requiring all zinc-coated anchors has been identified? MMHA member product suppliers state that adoption would require ground anchors to be more expensive than their foreign counter parts. Finally, not all ground anchor assemblies will require steel stabilizer plates, see §3285.402(b)(3)(ii). If a ground anchor assembly is tested to be listed or certified by the current MHCC Subcommittee/Installation ground anchor test protocol under consideration, *uses an ABS stabilizer plate,* and passes all failure criteria for a certain soil classification, can that listed or certified anchor assembly be used under this section?

On page 2147 under proposed section 3285.505 (d); it indicates that ventilation openings in the crawlspace must be covered with perforated metal coverings. This appears to limit material that is used for ventilation opening coverings and not allow other suitable material available in the marketplace such as vinyl or plastic covering. We suggest the draft language be changed: perorated ~~metal~~ coverings <u>resistant to decay</u>.

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Regarding the codification of the proposed installation standard under 24 CFR 3280; the MMHA strongly believes that the proposed federal model installation standard should not be codified under 24 CFR 3285, but instead should become subpart of 24 CFR 3280. By codifying the installation standard under Part 3285, the MHCC will not be privy and involved (120-day comment period prior to publication) with any proposed change by HUD in the future. The MHCC is the entity Congress specifically assigned to develop the installation standard and MHI is certain that Congress fully intended for the MHCC to be directly involved in its continued maintenance and updating. As currently proposed, HUD has to only provide the MHCC review period for construction and safety standards. In the definition for manufactured home (page 21520), HUD has embraced the fact that Part 3285 is for installation standards and Part 3280 is construction and safety standards. The construction/assembly of the home and installation of the home go hand-in-hand. There should be no distinction in the federal regulations at 24 CFR 3280. This is similar to other private sector building codes where the code contains the design and construction requirements for the residential home in addition to any installation criteria that must be followed to complete the home. There should be no differentiation in the federal manufactured housing program between construction/assembly and installation. HUD will provide oversight for both components, so two separate documents (regulations) are not necessary for construction and installation.

On page 21508; 3285.202; the model installation standard should include the pocket penetrometer. The various methods to determine soil bearing capacity and classification have been deleted in lieu of accepted engineering practice. One such method, the pocket penetrometer, is a common method to determine soil-bearing capacity. It also is accepted in many states throughout the country as an appropriate method. It seems reasonable to permit the LAHJ to accept any method they feel is adequate. Therefore, it is suggested that §3285.202(a)(1) be modified to permit the LAHJ to accept any method as follows: "*Soil tests*. Soil tests that are in accordance with generally accepted engineering practice; a pocket penetrometer or other method acceptable to the LAHJ; or".

On page 21506; 3285.2; Site Preparation; there is no reason to require a professional engineer or architect to be consulted for site preparation if the manufacturer's manual does not cover it. Every manual that has been reviewed by the industry's national association and the MMHA always contains some information with regard to site preparation. It is also covered in Minnesota's Chapter 1350 Manufactured Home Installation Rules. If by chance a manual does not, then the LAHJ can be looked to for any conforming requirements. This would be an added cost burden to individual homeowners or manufactured home community owners. Installers already must determine soil bearing capacity and classification that relates to selecting the appropriate footings, pier configurations and ground anchor spacing.

On page 21505 and 21518; 3285.1(a); Applicability-The proposed rule is applicable only to the initial installation of the new home. States could enact the model installation standard to apply to secondary moves if so desired. At present, the model standard covers only new installations and states are left open to determine what requirements

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are necessary for secondary moves. These requirements could take the form of enactment of criteria found in existing state installation standards, enactment of new installation standards through state law or compliance with local requirements. The MMHA believes this is important and that it should be retained in the Final Rule.

The MMHA believes that a workable model installation standard can serve the industry well by bringing more uniformity to installation standards in like climates and provide a higher-level of consumer satisfaction. It is important the Final Rule be balanced to reflect the continuity of performance based standards from the construction of the home to the installation standards of the home, thus encouraging innovations and marketplace cost savings in meeting the required outcomes of the model installation standard. Thank you.

Sincerely,

Douglas Solmonson
Sales Manager
Lakeside Homes,Inc

June 22, 2005

Regulations Division
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OFFICE OF GENERAL COUNSEL
HUD RULES DOCKET CLERK

Re: Docket No. FR-4928-P-01; HUD-2005-0006
RIN Number 2502-AI25
Model Manufactured Home Installation Standards

Introduction

The West Virginia Housing Institute Inc. respectfully submits comments in response to the proposed rulemaking noticed in the ***Federal Register*** of April 26, 2005, (70 FR 21497 – 21559).

WVHI is a nonprofit national trade association representing all segments of the manufactured housing industry, including: manufactured home producers; material and service suppliers; retailers; community developers, owners and managers; insurers; and, financial service providers. WVHI represents the largest segment of new housing being erected each year in West Virginia. More than 130,000 people reside in manufactured housing in West Virginia, according to the U.S. Census. We are the fastest growing housing sector in the state. WVHI represents manufacturers, communities, retailers, installers, finance corporations, and law firms

General Comments

WVHI has reviewed the comments proposed to you by the Manufactured Housing Institute. WVHI is in general agreement with the comments provided to you by our national organization.

Model Manufactured Home Installation Standard @ 24 CFR 3285

WVHI believes the federal model installation standard should not be codified under 24 CFR 3285, but should become subpart of 24 CFR 3280. By codifying the installation standard under Part 3285, MHCC will not be privy and involved (120-day comment period prior to publication) with any proposed change by HUD in the future. MHCC is the entity Congress specifically assigned to develop the installation standard and WVHI believes Congress intended MHCC be directly involved in its continued maintenance and updating. As proposed, HUD has to only provide the MHCC review period for construction and safety standards. In the definition for manufactured home (page 21520), HUD has embraced the fact that Part 3285 is for installation standards and Part 3280 is construction and safety standards.

Construction/assembly of the home and installation of the home go together. There should be no distinction in federal regulations at 24 CFR 3280. This is similar to other private sector building codes where the code contains design and construction requirements for the residential home in addition to any installation criteria that must be followed to complete the home. There should be no differentiation in the federal manufactured housing program between construction/assembly

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and installation. HUD will provide oversight for both components, so two separate regulations are not necessary.

Under 24 CFR 3282.14, the Alternate Construction (AC) process, as an extension of installation at the site, is used to ascertain that home installation conforms to local governing building code practices if the home, when completed, does not conform to HUD Code. With respect to the model installation standard, this same process occurs with the only difference being that the home will conform to the HUD Code and its companion model installation standard once installed at the installation site. It is illogical to have the federal mandate for homes not comply with the HUD Code to meet federal enforcement criteria and have homes that comply with the federal installation program outside either current construction (Part 3280) or enforcement regulations (Part 3282).

HUD Enforcement in Default States

On page 21500, the proposed rule describes, for the first time, a default state under the installation program. Under the MHIA §623(c)(11), states have a 5-year window to develop and implement their own state installation program through state legislatures. If a state determines it neither has the manpower nor the money to sustain a complete state installation program, then the state can cede its authority to HUD, thus becoming a "default state".

HUD intends to permit states or municipalities to establish more stringent requirements for the installation of HUD Code homes, as long as they meet or exceed the model standard. Any default state should be pre-empted from establishing more stringent requirements over and above what the model installation standard provides. States had a 5-year period beginning Dec. 28, 2000, to enact an installation program that includes an installation standard. HUD would now permit any state or municipality to disregard the MHIA's provisions, wait and implement whatever they desire after the 5-year period ends, and circumvent the MHIA's requirements.

This would permit local jurisdictions to enforce more stringent requirements for home installations above what HUD would enforce as the minimum requirements for default states. This could be a way for local jurisdictions to "zone out" HUD Code homes in certain areas under their realm if they make installation requirements unreasonable for the community owner or individual tenant/homeowner to bear the initial cost. HUD's default state installation standard should be preemptive, similar to its status on design and construction of homes under 24 CFR 3280.

Technical Concerns

Some concerns arise because HUD has revised the original intent of the MHCC December 2003 draft standard or established new requirements for the initial placement of new manufactured homes. These concerns are listed in two separate categories entitled Critical and Important Issues.

1. Critical Issues

- **Mortared Pier Configurations [page 21528-21529; 3285.306(b)-(c)]**
  These sections for pier configurations over 36 inches in height require a mortared assembly unless otherwise specified in the manufacturer's instructions. This is completely opposite of what was submitted by the MHCC. The MHCC stated mortar is not required for double-stacked piers unless required by the manufacturer. This

requirement could cause unnecessary mortared piers if the manufacturer's manual is silent on whether mortar is required, and then the model installation standard would require mortar in all instances. This same concern also applies to one caption in Figure B to §3285.306.

In all likelihood, a pier greater than 80" in height will require a mortared assembly. However, that is something that may not be in the manufacturer's instructions since a registered design professional (PE) can determine support system design. The last sentence of this section should be deleted as it serves no useful purpose and the PE design will specify whether mortar is required or not.

- **Placement of Footings in Freezing Climates [pages 21502, 21510 and 21512; 3285.312(c)]**
  The MHCC draft model installation standard included insulated foundations as a method to not have pier footings extend to the frost line depth. This can be found in the MHCC draft model standard at Section 6.3.2.3. The basic intent was to include insulated skirtings as an insulated foundation system, thus the reason the MHCC draft included a provision for cross-ventilation of the space under the home. In the proposed rule at §3285.312(c)(3), this statement was deleted and replaced with any system must be designed by a registered PE **and** conform to ASCE 32. This mandatory reference to ASCE 32 may effectively eliminate any type of insulated skirting system from being used to permit pier footings to be above the frost line.

  By requiring a PE design (acceptable), and to make any system subject to ASCE 32 requirements (not acceptable), essentially eliminates insulated skirting materials from ever being used. ASCE 32 is for foundation systems composed of a basement, a slab, or a crawl space with a perimeter foundation wall. Insulated skirtings, with typical piers and footings, may not be applicable to ASCE 32. There is no problem with ASCE 32 being used as an optional reference standard, but HUD made it mandatory in all instances, thus requiring a permanent-type foundation for every home should you not want to go to frost depth with pier footings. We agree with MHI's interpretation of §3285.312(c).

  Also, if using §3285.312(c)(2), for slab systems, ASCE 32 is also required for conformance. ASCE 32 will require vertical and horizontal insulation materials below grade. The effect of the more stringent ASCE 32 requirement needs to be addressed.

  Under §3285.404, it is possible for ground anchors not to be installed below frost line. The model standard permits footings to be located above frost line by §3285.312(c). One can use a floating slab or insulated foundation system and have footings above frost line. If the footings that bear the vertical loads can be above frost line, why would the anchoring system not be able to do the same? The longest ground anchor produced is 6 feet long, and in many areas of the country, it may be next to impossible to install then in all soil classifications. There should be a reference to §3285.312(c), in which the approved alternate anchoring system may be included as part of a listed or labeled foundation support system (floating slab or insulated foundation).

  Footnote 1 of 3285.310 Figure A requires all footings to extend below frost depth. This is contradictory to §3285.312(c), where insulated foundation systems may permit footings at grade in frost areas. The footnote should reference section §3285.312(c) for footing depths. This same comment also applies to Figure B.

There have been tests/reports performed on frost-protected foundations for HUD Code homes and skirting materials. The reports referenced at Enclosure I are attached to this letter for departmental review in determining whether it is necessary for all foundation systems in freezing climates to require conformance to ASCE 32.

.1 Manufactured Home Foundations Design for Seasonally Frozen Ground, Progressive Engineering, Incorporated (PEI), Goshen, IN, June 14, 1996.
2. OH MHA: Manufactured Home Movement – Lancaster, OH, PEI, July 2000 – 2001.
3. OH MHA: Manufactured Home Movement – Circleville, OH, PEI, November 2000 – 2001.
4. OH MHA: Manufactured Home Movement – Circleville, OH, PEI, September 2000 – 2001.

As an alternative to making ASCE 32 an optional reference standard or revising §3285.312(c) to the original MHCC language submitted on December 2003, WVHI agrees with the MHI's following performance-based language as a substitute, "Footings placed in freezing climates must be designed and installed using methods and practices that prevent the effects of frost heave in accordance with the manufactured home design and the requirements of the Manufactured Home Construction and Safety Standards (Part 3280)."

- **Permanent Foundation Systems [21502, 21509 and 21511; 3285.314(a)]**
  Section 3285.314 should state what is being referred to under this section. The described text of the proposed rule seems to be more in line with §3285.314(b). The first two sentences of this section are mainly commentary and provide no information on how or what to use when designing permanent foundation support systems for HUD Code homes. They should be deleted in their entirety. The first is in conflict with HUD's preemption for default states to not require more stringent requirements than that contained in the model standard. The model standard should make no mention of anything concerning how mortgage lenders or others can establish financing eligibility requirements for permanent foundations. This is for the financial institutions to decide and this standard needs to stay focused on the MHIA's premise, to provide a model installation standard. Financing options for the model standard are outside the scope of the MHIA and should be deleted.

The original MHCC recommendation stated the obvious. "Designs for permanent foundations (such as basements, crawl spaces, or load-bearing perimeter foundations) may be permitted to be obtained from the home manufacturer, or designed by a registered professional engineer or architect, and constructed in accordance with local building code requirements". This is the proper performance-based language for any section on permanent foundations.

Should the department still not finalize the MHCC language, below is performance-based language that can be used as an alternate, "The placement of a manufactured home on a permanent foundation must be in accordance with the state requirements, installed in accordance with their listing by a nationally recognized testing agency based on nationally recognized test protocol, or installation in accordance with the manufacturer's approved permanent foundation installation instructions; and in all cases based on the home's design and the load requirements of the Manufactured Home Construction and Safety Standards (Part 3280)." This is performance-based language that the MHCC developed at its May 25, 2005 conference call. MHI aggress with this type of

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performance lan[illegible] original MHCC language submitted in December 2003 is not appropriate for fe[illegible]s.

Permanent foundation requirements would be specific to the installation site in question, see page 21509. With an approved state-based installation program, the LAHJ will require the permanent foundation systems to meet local governing building codes. This has been the case for years and there is no compelling reason to change. HUD's enforcement of an installation program in default states should provide the same. The MHCC draft provided the mechanism to cover this topic. It stated when a permanent foundation system is contemplated, the design would need to follow accepted engineering practice, be design by the manufacturer or professional engineer, and in conformance with local governing building codes. This would seem appropriate to re-insert this language in §3285.314 to alleviate the concern.

It is not appropriate for the model (minimum) standard to require that manufacturers provide DAPIA-approved designs for permanent foundations, see page 21509. This should be an option to the homeowner, if they so choose, but the manufacturer should only need to provide the design when selected. MHI has encouraged manufacturers to provide permanent foundations designs for homes and it is hoped that the model standard will do the same. But to make it mandatory in every instance is overkill, especially when a large majority of HUD Code homes will follow the conventional installation method of piers with ground anchor assemblies. There are many smaller manufactured home producers that do not have engineering staff available to perform this task. These companies use outside engineering consultants to provide their design packages. This would be an added extra cost to these small producers for complying with a requirement that their buyers may not even wish to consider.

- **Ground Anchoring Assembly Corrosion Protection Requirements [page 21512; 3285.402]**
  HUD modified the MHCC draft standard with regard to galvanizing of ground anchors, anchor equipment and stabilizing plates. First of all, this section requires ground anchors to be zinc-coated in all instances. This deviates from the HUD Code in that it requires anchoring equipment to have a resistance to weather deterioration at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz/ft^2. This would preclude other forms of known corrosion protection from being used in lieu of galvanized anchors. Stainless steel, epoxy coatings, and even mill galvanizing are acceptable methods of corrosion protection in the site-building industry.

  Secondly, the problem is that imported (foreign) anchors are less expensive than U.S.-made ground anchors with the same type of zinc galvanizing. Has the economics of requiring all zinc-coated anchors been identified?

  Thirdly, not all ground anchor assemblies will require steel stabilizer plates, see §3285.402(b)(3)(ii). If a ground anchor assembly is tested to be listed or certified by the current MHCC Subcommittee/Installation ground anchor test protocol under consideration, *uses an ABS stabilizer plate*, and passes all failure criteria for a certain soil classification, can that listed or certified anchor assembly be used under this section?

- **All Hinged Roofs to be Applicable [page 21504 and 21512; 3285.801(f)]**
  Hinged roofs are not subject to AC letters or On-Site Completion when only in Wind

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Zone I, limited to a 7:12 roof pitch and cannot have any flue penetration above the hinge. The model standard should be extended to cover any hinged roof regardless of wind zone, roof pitch or flue penetration. This is a normal construction sequence that is occurring more and more frequently for HUD Code home installations.

The manufacturer can provide installation instructions for hinged roofs that conform to the HUD Code. These instructions would require DAPIA approval. This is no different than providing installation instructions for marriage line/crossover connections, alternate ground anchor assembly spacing that meets/exceeds the model installation standard, or close-up details for multi-section homes.

This option of placing hinged roofs under the model installation standard would save considerable money with regard to IPIA inspection under the on-site completion rule, and considerable time under the AC letter process. This is not a new form of HUD Code assembly and it has been performed for years. Time has shown that industry can treat hinged roofs as installation set-up without departmental oversight.

On page 21504, this same suggestion for the model standard to cover all hinged roof applications is covered. A hinged roof should be treated as construction of the home's roof assembly and subject to the requirements of the HUD Code. Once these hinged roofs are placed, they would have to conform to the HUD Code. This would be evident for hinged roofs in all Wind Zones, and not just Wind Zone I as HUD has specified in the proposed rule. As long as a hinged roof, in any Wind Zone, under any condition complies with the HUD Code after installation, it should not be subject to either on-site completion or an AC letter. If the hinged roof after installation fails to meet the HUD Code, then AC letters should be required.

- **Model Standard Should Include the Pocket Penetrometer [page 21508; 3285.202]**
  The various methods to determine soil bearing capacity and classification have been deleted in lieu of accepted engineering practice. One such method, the pocket penetrometer, is a common method to determine soil-bearing capacity. It also is accepted in many states throughout the country as an appropriate method. It seems reasonable to permit the LAHJ to accept any method they feel is adequate. Therefore, it is suggested that §3285.202(a)(1) be modified to permit the LAHJ to accept any method as follows: "*Soil tests*. Soil tests that are in accordance with generally accepted engineering practice; a pocket penetrometer or other method acceptable to the LAHJ; or".

- **Ground Anchor Test Protocol [page 21503; 3285.402(c)]**
  The MHCC Subcommittee/Installation is presently developing a test protocol for ground anchor assemblies. MHI believes that this is the appropriate group to take on the development of test protocol. HUD should wait until the MHCC has submitted their version of a ground anchor assembly test protocol before any attempts to develop one outside the MHCC or provide specific requirements for testing in the model standard.

- **Proprietary Foundation System Test Protocol [page 21501 and 21509]**
  The MHCC Subcommittee/Installation is presently developing a test protocol for ground anchor assemblies. MHI believes that this is the appropriate group to take on the development of test protocol for proprietary foundation support systems. Until one can be developed and approved by HUD, industry should continue on its present track of having these systems approved by states with qualifying installation programs or HUD in default states using the same criteria that are being used to approve these systems at

present. DAPIA approval would provide one method of approval since manufacturers may wish to include some type proprietary foundation system in their installation manuals.

MHCC has been targeted to develop a test protocol for proprietary foundation systems, once the ground anchor assembly test protocol has been completed. There have already been two known proposals submitted to the MHCC for the test criteria (Tiedown Engineering). It would be best to delay providing any specific design considerations for proprietary systems in the proposed rule at this time. The model standard is the minimum acceptable requirements and the possible alternate foundation system requirement inclusion goes beyond the MHCC "one method of installation" principle.

Any proprietary system can be evaluated by the manufacturer. If they so choose, they could elect to include any proprietary foundation system in the installation manual. If so, then DAPIA approval would be required. Ultimately, any alternate construction method or design should be approved by the state in accordance with local governing building codes or HUD in default states per the HUD Code.

It would be up to each state to determine the appropriate inspection level for proprietary foundation systems. By the MHIA, a state only has to perform inspection but no frequency is specified. A state could always require every proprietary system to be inspected, but it is there right to do it under the MHIA's premise. In default states, if HUD requires 100 percent inspection of home installations, every proprietary system would be inspected.

- **Complete Home Installation and Close-Up Assembly [page 21499 and 21500]** MHCC encouraged the inclusion of close-up activities in developing its draft model standard. The emphasis was to provide the installer of the home with all the necessary information they would need to complete the home. The department has dwelled on the fact inspection of the close-up activities will be required in all instances. However, that is not necessarily the case, especially for states that have a self-certified installation program. States enforcing their own installation program may not require 100 percent inspection for home installations. They may only require 50 percent or below, which is their right under the MHIA §605(c)(3)(C). The MHIA only states that inspection must be performed for a qualified state inspection program but it is silent on the frequency of inspections. In a default state that is administered by the department, 100 percent inspections of close-up activities could be required depending on what frequency of inspection will be required in default states under the remaining portion of the installation program.

How can the manufacturer be responsible for close-up work when the person installing the home may not be under contract with or under the supervision of that particular manufacturer? Manufacturers can only control the close-up activity when they use their own set-up crews to install homes (as some do). However, to make the manufacturer responsible for every one of their home's installations is not practical or possible without an extraordinary expense to hire third-party agencies to perform the inspections.

Close-up should be a part of the installation of the home and the responsibility of the installer or in some cases the retailer. Thus, close-up becomes part of the installation process of home completion. In many instances, the manufacturer has no control or

oversight over the installer when contracted under the home's retailer, so the onus should fall on who contracts with the installer to set the home.

Requiring close-up inspections would add cost to the inspection process because it is doubtful one inspection for the setting of the home, and additional inspection for close-up, could be completed at the same time. If some states have not had problems with home close-ups, then why should the model standard require it as a minimum? This is to be a minimum standard for installing the home, not a maximum. States should be encouraged to inspect close-ups, but it should not be a condition of acceptance of any state installation program. The MHIA does not specify the type of inspection that must be performed, only that inspection is provided. This could be the start of a laundry list of inspections the departments feels is necessary to properly install the home. It should be up to each individual state to determine what they deem necessary for proper installation of the home.

A basic premise under the proposed rule is that manufacturers' installation instructions must meet or exceed the model standard. The instructions cannot take the home out of compliance with the HUD Code and must provide adequate instructions to properly complete the home. However, the MHIA is intended to provide relief from the most common complaints known to industry, improper set-up of the home. This is responsible for a majority of complaints that retailers and manufacturers receive. This is what the installation program is all about, to ensure the adequate installation of the home, or in other words, to be absolutely sure the installer has installed the home according to the manufacturer's installation instructions, or whatever requirements may apply. That is why the onus of complying with the model standard should fall onto the installer's shoulders. It is also why other parts of the installation program are specifically geared towards improving the training and licensing/certification of installers,.

Implementation of Seismic Criteria [page 21500]
The model standard should maintain the status quo with respect to any seismic safety criteria. As stated in the proposed rule, some states already are implementing seismic requirements for the installation of HUD Code homes. And this is how it should be. If a state wants to provide for seismic design or construction concerns specific to the foundation support system, then they should enact requirements through state legislation when attempting to implement a state installation program. In this manner, any state program would equal/exceed the HUD model standard with respect to foundation support system design. The model standard should be the minimum necessary requirements to properly install the home. Adding seismic criteria to the model standard might conflict with what some states are presently mandating that are working sufficiently. Since there are no HUD Code requirements for the home itself to consider seismic design, why should the model standard, as a baseline document, do otherwise?

2. Important Issues

- **Figures/Tables for Marriage Line Pier Supports [page 21510; 3285.310]**
The easiest manner to provide for the appropriate location and spacing of piers would be to reference the manufacturer's installation manual. However, HUD has mentioned several times about this type of circular reference being outside of the model standard's scope. Since each new home would have its own installation manual, these types of requirements would be provided in every instance, but they are model-specific. In addition, state-based installation standards may set their own requirements that may

conflict with the minimum model standard. However, HUD will judge whether a state-based installation standard meets/exceeds the model standard, and HUD will use the model standard in default states. In any event, some minimum guidance should be given to installers and the existing figures represent the MHCC's attempt to provide that guidance.

- **ABS Stabilizer Plates [page 21512;3285.402(b)(3)(ii)]**
  Not all ground anchor assemblies will require steel stabilizer plates. If a ground anchor is tested and listed/certified by the current ground anchor test protocol under consideration, *uses an ABS stabilizer plate*, and passes all failure criteria for a certain soil classification, can that listed or certified anchor assembly be used under this section?

- **Alternate Design Requirements [page 21501, 21509 and 21511 – 21512]**
  The model standard appears to include the necessary design assumptions used to develop the tables and charts for piers, footings and anchor spacing requirements, see page 21501. Almost all design assumptions are covered by existing footnotes to the tables and charts. It might be worthwhile to consider supporting a concept to include a section within the model standard, where applicable, to list the design assumptions for such items as footings, piers and ground anchor spacing requirements. In this manner, the design assumptions would not be overlooked.

  It is not entirely clear that manufacturers, or any other registered PE, may perform alternate designs as long as they meet or exceed the design assumptions provided in the model standard. While HUD states numerous times throughout the proposed rule (pages 21509 and 21511 – 21512) that the intent is provided, it would be advantageous to provide a section in the model standard under §3285.1 to specifically permit alternate materials and methods of construction that are not covered in the model standard to be used as long as the intended option conforms to the minimum requirements (design assumptions) included in the model standard, or even the HUD Code, which may apply in some instances.

  MHCC's draft model standard was not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed in a model standard, provided such alternative had been approved by either the LAHJ or HUD contractor (in default states). If the alternate design satisfactorily meets or exceeds the model standard requirements, then why should it not be permitted as an approved alternate method of construction to the one method prescribed in the model standard for anchoring against wind? This would assist manufacturers who may decide to include other methods of home support and anchorage in their installation manuals.

  No reason exist why manufacturers cannot comply with the model standard for their installation manuals. The ultimate goal of MHCC was to provide a document manufacturers could use as the baseline for their manuals. They also would be permitted to insert special instructions to accomplish alternate materials, components or assemblies outside the model standard's minimum requirements.

  It will be up to the DAPIA to approve that the manufacturers' installation manual meets/exceeds the model installation standard by the MHIA §605(a). Whether a manufacturer follows the model standard format or their own format should not matter to the department. The basic intent is to be sure the manufacturer's manual conforms at least to the minimum installation requirements stipulated by the model standard.

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- **ABS Footing Pad Approval [page 21510; 3285.312(a)(3)]**
  ABS footing pads are currently being approved and used. With qualifying state-based programs, the state should determine the appropriate criteria for ABS pad approval. WVHI assumes ABS pads are tested for compressive strength as a minimum. Status quo with how these materials are presently being approved for use in home installation should be maintained until an actual nationally recognized material/testing standard is developed.

- **Flood Hazard Requirements [page 21520; 3285.101(d)(1)]**
  The two methods indicated in §3285.101(d)(1) for flood hazard requirements should not be inclusive. In most instances, LAHJ will have the final word and should be able to eliminate unnecessary flood hazard criteria that may not be required for other types of residential housing. Also, the option should exist for the LAHJ to enforce what they feel is necessary. It is their right if the state has self-certified its program through HUD. This section basically should provide two options for flood hazard criteria: 1) per the LAHJ; or 2) per the NFIP regulations. The manner presently written makes both inclusive no matter what the circumstance.

- **Model-Specific Home Plans [page 21508; 3285.2 and 21511; 3285.403]**
  There is no need to require model-specific plan criteria for the model standard, see page 21508. If there are specialized criteria for a certain model home, then the manufacturer can provide that information in the installation manual that accompanies each new home. The model standard provides one method to install the home, whether it is footings/foundation support systems, ground anchor spacings, or utility crossovers/connections. Since the model standard is considered the minimum requirements, any specialized model home will contain the accompanying plans/specifications to complete the home installation. Thus, the DAPIA will already determine that the specialized manufacturer's manual has met or exceeded the model standard. Subpart G contains the minimum criteria necessary to complete the home.

  This proposed rule would require manufacturers to provide an installation manual for all homes, as the proposed rule applies to the initial installation of the new home, see page 21511. The manufacturer may have installation criteria listed in the manual for the specific model home. Therefore, the best alternative might be to permit the mating line anchorage/connection to be determined by the manufacturer's installation manual. The manufacturer's manual will need DAPIA approval to ensure that it meets/exceeds to federal model standard. Checks and balances are present for mating line anchorage mechanisms. The federal model standard is to be a "minimum" standard and some reliance on manufacturers' proprietary designs in their installation manuals is necessary. The model standard should not attempt to provide installation requirements for every conceivable multi-section home available for purchase.

- **Minor Tears in Bottom Board Materials [page 21501 and 21523; 3285.204(c)(3)]**
  It is true that excessive tears or voids can create additional moisture release into the space between the home's floor system and finished ground surface. The best avenue for the model standard would be to state that all tears and voids should be repaired. This existing text is left open to differing interpretations no matter who is overseeing the installation program (HUD or SAA). What would be considered a minor tear (2", 6" or 12") considering the overall area of the vapor retarder underneath the home? How can

this type of regulation be consistently enforced by states with their own installation program or various HUD contractors that enforce programs in default states? This is probably one instance where a prescriptive requirement would be necessary, but the best alternative is to require all voids and tears to be repaired.

- **Site Preparation [page 21506; 3285.2]**
  There is no reason to require a professional engineer or architect be consulted for site preparation if the manufacturer's manual does not cover it. Every manual contains some information with regard to site preparation. If by chance a manual does not, then LAHJ can be looked to for any conforming requirements. This could be an added cost burden to individual homeowners or community owners. Installers already must determine soil bearing capacity and classification that relates to selecting the appropriate footings, pier configurations and ground anchor spacing.

- **Manufacturers Installation Manual Standard Format [page 21501]**
  It will be up to the DAPIA to approve that the manufacturers' installation manual meets or exceeds the model installation standard by MHIA §605(a). Whether a manufacturer follows the model standard format or their own format should not matter to the department. The basic intent is to be sure the manufacturer's manual conforms at least to the minimum installation requirements stipulated by the model standard.

- **Manufactured Home Piers [page 21509; 3285.303]**
  The proposed rule already specifies that manufactured home piers, other than concrete masonry units or steel jack stands, be listed and labeled for the required vertical loads and appropriate lateral loads. This appears to be a performance-based requirement. There does not seem to be any reason to begin a laundry list of the design conditions. HUD should maintain status quo until some nationally recognized material/testing protocol can be developed.

- **Shim Use for Home Leveling Purposes [page 21509 and 21528; 3285.304(c)]**
  Items (1) through (3) are supposed to be independent of each other. The MHCC draft standard included "or" after each item so that they are optional requirements when it comes to using shims to fill gaps while leveling the home. The manner presented states that "any combination applies", but without the "or" between each item, it appears to make them all mandatory in every instance. One interpretation would be that if you use item (2), item (3) is also necessary since item (2) ends with "and" making both inclusive.

- **Steel Reinforcement for Footings [page 21502; 3285.312(b)(1)(ii)]**
  There is no need to provide steel reinforcement specifications for cast-in-place footings in the model standard. This will be determined by either the manufacture or registered PE for the intended application. The model standard is a minimum standard to install HUD Code homes. If anything, LAHJs will require reinforced footings based on local requirements if necessary. If the manufacturer desires to provide alternate footings designs, this would be the appropriate time to analyze whether reinforced footings are necessary for a specialized foundation support system for specific pier loads.

- **Site Preparation - Organic Material Removal [page 21508; 3285.201]**
  It may not be necessary to remove 6 inches of soil for placement of footings on undisturbed soil. MHCC's draft standard left this open to determine the extent of ground clearance for proper foundation support system set-up. Also, it is possible

manufacturers' manuals, or a state installation program, may require removal of a minimum thickness of soil for proper footing placement. This could present conflicts if the manual or state standard specify a thickness of organic material that does not meet or exceed the model standard. This issue is better left to LAHJ to decide.

- **Drainage of Water Runoff [page 21501]**
  The model standard requires any water runoff from gutters and downspouts to be diverted from the home. HUD Code or the model installation standard does not specifically require gutters or downspouts for installation on every HUD Code home. If the producer/retailer does provide gutters and downspouts as an additional feature for the home, then the installer must ensure that adequate drainage is provided at the site.

- **Moisture Build-Up Laundry List [page 21521; 3285.203(a)]**
  There is extra verbiage in this section that is not necessarily due to moisture build up under the home. These are the "dampness in the home, buckling of walls or floors and problems with the operation of doors and windows". Even though this is original MHCC language, is it necessary to provide a laundry list of what might occur without proper drainage? These are sometimes caused by other means such as moisture infiltration through the home's envelope, by improper setting of the home, or inadequately prepared piers/footing. These examples have nothing to with drainage under the home. It is best to adhere to what is usually evident rather than providing a descriptive laundry list.

- **Home Construction Items [page 21504]**
  MHCC did not address some of the items mentioned in the proposed rule (frame bonding, panel boxes and feeder requirements). These should be considered part of the HUD Code that would need plant inspection or listing/labeling to ensure compliance. Since some of these items might be home model specific and it is best to leave these issues up to manufacturers to determine how best to provide proper design, construction and installation requirements. Some of these issues are not a "one size fits all" type of condition. The "minimum" model standard cannot be expected to cover every conceivable condition.

- **Bay Window Inclusion [page 21512]**
  The department has deleted the MHCC draft requirements for bay window installation under the model standard. Under §3285.801(f), the manufacturer would need to furnish installation instructions for the hinged roof so that the installer would know the necessary elements of field installation. Bay windows are in the same vein as they could fall under a "ship-loose" item. As long as the home is designed properly for the product attachment, the manufacturer provides DAPIA-approved installation instructions, and the installer can follow those instructions, bay windows should be covered under the model standard.

Criteria Considered Necessary for the Model Installation Standard

The model installation standard includes some criteria that are necessary for proper application and enforcement of the standard once finalized rulemaking. The four issues highlighted below may not have been discussed by the MHCC when it developed its draft model standard for HUD's consideration. By the department suggesting their inclusion, the proposed rule would identify some important installation and enforcement criteria for providing the "minimum" requirements for 1) manufacturers' installation manuals; and, 2) state-based installation standards.

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1. **Applicability [page 21505 and 21518; 3285.1(a)]**
   The proposed rule is applicable only to the initial installation of the new home. States could enact the model installation standard to apply to secondary moves if so desired. At present, the model standard covers only new installations and states are left open to determine what requirements are necessary for secondary moves. These requirements could take the form of enactment of criteria found in existing state installation standards or enactment of new installation standards through state law.

2. **Approval of Manuals and State Standards [page 21506 and 21518; 3285.1(a)(1) and 3285.2]**
   HUD identifies that all manufacturers' installation instructions will need to meet or exceed the model installation standard. DAPIAs will be responsible for determining whether a manufacturer's manual fulfills this requirement. When it comes to existing state-based installation standards, HUD will determine whether the state requirements meet or exceed the model installation standard through state self-certification.

3. **Installation Conforms to Data Plate [page 21520; 3285.102]**
   This will codify a regulation that spells out that one cannot install any manufactured home in a higher wind zone, snow load or thermal zone than the home's original design for its initial installation. MHI receives this question on occasion for used home sales. New §3285.102 can provide HUD guidance on future industry inquiries of this nature.

4. **Alterations [page 21500, 21506 and 21507; 3285.3]**
   Alterations appear to relate to additions to the home after sale that may affect the compliance of the home with the HUD Code. This could be interpreted to cover such additions as awnings, carports, or attached garages. By the model standard stating that alterations cannot impart any load to the home unless the alteration is designed to do so, makes most of these types of alterations independent of the home itself, or self supporting. This would not permit a retailer to provide an attached carport or screened room/porch without consulting the manufacturer. Due to the Fall 2004 hurricane season in Florida, this would seem appropriate. This would curtail the practice of a retailer or community owner from attaching these add-on structures to the home without the manufacturer's knowledge and require an actual designed anchorage mechanism.

Conclusion

WVHI agrees HUD should be applauded for publishing the proposed rule for development of the model manufactured home installation standard.

Sincerely,

Andrew V. Gallagher
Executive Director

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June 24, 2005

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, S.W.
Washington, D.C. 20410-0500

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Re: Docket No. FR-4928-P-01
HUD-2005-0006
RIN 2502-A125
Model Manufactured Home Installation Standards

Dear Sir or Madam:

I fully support the comments made by both the Manufactured Housing Institute and the Manufactured Housing Association for Regulatory Reform.

Four Seasons would like to emphasize the following points:

1. Four Seasons feels strongly that there should be a distinction between the lines of responsibility for home construction versus installation.
2. Four Seasons believes that the Model Installation Standards must be preemptive in default states. Four Seasons opposes any approach to the Model Installation Standards that would allow either "default" states or localities in default states to establish or maintain installation standards in excess of the Model Installation Standards.
3. Four Seasons believes that the Model Installation Standards must be under the continuing jurisdiction of the Manufactured Housing Consensus Committee.

Four Seasons is a small manufactured and modular housing producer employing 224 people in Middlebury, Indiana. Four Seasons ships homes to 25 states. Thank you for your interest in the industry's comments.

Sincerely,

Austin Baidas
Chief Executive Officer and President

Cc: Chris Stinebert, Manufactured Housing Institute
Danny Ghorbani, Manufactured Housing Association for Regulatory Reform

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June 24, 2005

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RE: 24 CFR Parts 3280 and 3285
[Docket No. FR-4928-P-01; HUD-2005-0006]

General Counsel:

Kansas Manufactured Housing Association (KMHA) is a statewide trade association representing all facets of the Manufactured Housing Industry (i.e. manufacturers, retailers, community owners/operators, finance and insurance companies, service and supplier companies and transporters. The association would like to comment on HUD Proposed Rulemaking of Model Manufactured Home Installation Standards 70 FR 21497 – 21517, April 26, 2005.

Page 21499 - KMHA feels that the model installation standard should not be codified under 24 CFR 3285. This could entail that the Manufactured Housing Consensus Committee (MHCC) will not have access to any proposed change by HUD in the future. HUD has to only provide MHCC review period for construction and standards. In the definition for manufactured home, HUD has embraced the fact that Part 3285 is for installation standards and Part 3280 is construction and safety standards.

It is noted that the dispute resolution regulation will be coming as a component to providing greater protection to HUD Code residents. However, HUD states that future rulemaking on the dispute resolution program will include manufacturers, retailers, installers AND consumers. The Act, in section 623(b)(12) specifically states that only the manufacturer, retailer and installer are part of the dispute resolution process.

Page 21500 – It appears that HUD intends to permit a state or municipalities to establish more stringent requirements for the installation of HUD Code homes, as long as they meet/exceed the model standard. Any default state should be preempted from establishing more stringent requirements over and above what the model installation standard provides.

Page 21501 – With regards to vapor retarder, any ground moisture issue should be addressed at the point of the manufacture.

The model standard appears to include the necessary design assumptions used to develop the tables and charts for piers, footings and anchor spacing requirements. Almost all design assumptions are covered by footnotes to the tables and charts. It might be better to consider supporting a concept to include a section within the model standard, where applicable, to list the design assumptions for such items as footings, piers and ground anchor spacing requirements.

It is not clear that manufacturers or any other registered PE, may perform alternate designs as long as they follow the design assumptions provided in the model standard. It would be beneficial to provide a section in the model standard to specifically permit alternate materials and methods of construction hat are not covered in the model standard to be used as long as the intended option conforms to the minimum requirements included in the model standard. This would assist manufacturers who may decide to include other methods of home support and anchorage in their installation manuals.

Page 21502 - The MHCC draft model installation standard included insulated foundations as a method to not have pier footings extend to the frost line depth. This can be found in the draft model standard at Section 6.3.2.3. The basic intent was to include insulated skirting as an insulated foundation system, thus the reason the MHCC draft included a provision for cross-ventilation of the space under the home. In HUD's proposed rule, they took this statement out and left us with any system designed by a registered PE and conforming to ASCE 32. This mandatory reference to ASCE 32 effectively eliminates any type of insulated skirting system being used to permit pier footings to be above the frost line.

By requiring a PE design and to make any system subject to ASCE 32 requirements essentially eliminates insulated skirting materials from ever being used. ASCE 32 is for foundations systems composed of a basement, a slab, or a crawl space with a perimeter foundation wall. Insulated skirting, with typical piers and footings, may not be applicable to ASCE 32. There is no problem with ASCE 32 being used as an optional reference standard, but HUD made it mandatory in all instances, thus requiring a permanent type foundation for every home should you not want to go to frost depth with pier footings.

To the best of our knowledge there is no documented evidence that frost heave damage has ever occurred to a HUD Code home in Kansas. With that understanding, KMHA would suggest that for soils that are not frost-susceptible or where there is a history of adequate soil support for the home without deleterious frost heaving effects, the footings should not be required to go below the frost line.

Page 21503 - The MHCC Subcommittee on Installation is presently developing a test protocol for ground anchor assemblies. KMHA believes that this is the appropriate group to take on the development of test protocol. HUD should wait until the MHCC has submitted their version of a ground anchor assembly test protocol before any attempts to develop one outside the MHCC or provide specific requirements for testing in the model standard.

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Page 21506 – There is no reason to require a professional engineer or architect to be consulted for site preparation if the manufacturer's manual does not cover it. Every manual that has been reviewed by our national association Manufactured Housing Institute (MHI) always contains some information with regard to site preparation. If by chance a manual does not, then the LAHJ can be looked to for any conforming requirements. This adds to the cost burden of the individual homeowner or community owners. Installers already must determine soil bearing capacity and classification that relates to selecting the appropriate footings, pier configurations and ground anchor spacing.

Page 21508 – The various methods to determine soil bearing capacity and classification have been deleted in lieu of accepted engineering practice. One such method, the pocket penetrometer, is a common method to determine soil-bearing capacity. It also is accepted in many states throughout the country as an appropriate method. It seems reasonable to permit the LAHJ to accept any method they feel is adequate. Therefore, it is suggested that 3285.202(a)(2) be modified to permit the LAHJ to accept any method in their state that has a conforming installation program enacted through state law as follows: "*Soil records.* Soil records on file with the applicable LAHJ or methods acceptable to the applicable LAHJ; or".

Regarding soil removal, KMHA believes any minimum would be arbitrary and not practical. Simply state it must be undisturbed soil for at-grade-footings.

Page 21509 – Permanent foundation requirements would be specific to the installation site in question. With an approved state-based installation program, the LAHJ will require the permanent foundation systems to meet the local governing building codes. This has been the case for years and there is no compelling reason to change the current path. HUD's enforcement of an installation program in default states should provide the same. The MHCC draft provided the mechanism to cover this topic. It stated that when a permanent foundation system is contemplated, the design would need to follow accepted engineering practice, be design by the manufacturer or professional engineer, and in conformance with local governing building codes. This would seem appropriate to re-insert this language in 3285.314 to alleviate the concern.

Page 21510 – 3285.312(b): The MHCC draft model installation standard included insulated foundations as a method to not have pier footings extend to the frost line depth. This can be found in the draft model standard. The basic intent was to include insulated skirtings as an insulated foundation system, as a result one of the reasons the MHCC draft included a provision for cross-ventilation of the space under the home. In the proposed rule, this statement is deleted and inserted "any system designed by a registered PE and conforming to ASCE 32". This mandatory reference to ASCE 32 effectively eliminates any type of insulated skirting system being used to permit pier footings to be above the frost line.

To the best of our knowledge there is no documented evidence that frost heave damage has ever occurred to a HUD Code home in Kansas. With that understanding, KMHA would suggest that for soils that are not frost-susceptible or where there is a history of

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adequate soil support for the home without deleterious frost heaving effects, the footings should not be required to go below the frost line.

Page 21511 and 21512: Regarding galvanization of anchors and stabilizer plates, the strapping is galvanized. The ground anchors and stabilizer plates are not for those areas that are not considered costal regions. It is not necessary for non-costal regions to have the elevated requirement as the costal regions to only increase the cost burden to the homebuyer.

3285.404: It is possible for ground anchors not to be installed below frost line. The model standard permits footings to be located above frost line by 3285.312(c). One can use a floating slab or insulated foundation system and have footings above frost line. If the footings, which bear all vertical loads, can be above frost line, then why would the anchoring system not be able to do the same? The longest ground anchor produced is 6 feet long, and in many areas of the country it may be next to impossible to install then in all soil classifications. There should be a reference to 3285.312(c) in which the approved alternate anchoring system may be included as part of a listed or labeled foundations support system.

Page 21523 - With regards to vapor retarder, any ground moisture issue should be addressed at the point of the manufacture.

Page 21528 – This section for pier configurations between 36" – 80" requires a mortared assembly unless otherwise specified in the manufacturer's instructions. This is the opposite of what was submitted by the MHCC. The MHCC stated that mortar is not required for double-stacked piers unless required by the manufacturer. This could conceivably cause unnecessary mortared piers if the manufacturer's manual is silent on whether mortar is required and then the model standards would require mortar in all instances.

Page 21531 – Footnote 1 requires all footings to extend below frost depth. This is contradictory to 3285.312(c), where insulated foundations systems may permit footings at grade in frost areas. The footnote should reference section 3285.312(c) for footing depths. This applies to Figures B.

Page 21536 – The MHCC draft model installation standard included insulated foundations as a method to not have pier footings extend to the frost line depth. The basic intent was to include insulated skirtings as an insulated foundation system, therefore one of the reasons the MHCC draft included a provision for cross-ventilation of the space under the home.

There have been tests performed on insulated skirting materials, suggesting a certain R-value material can or cannot keep the ground beneath the home above freezing temperatures. These tests measured the temperature in the space between the home and the ground for an entire winter. The test homes were located in Ohio. The three test home sites all showed that insulated skirtings can keep the ground under the home above freezing.

Page 21539 – This section again requires zinc coated ground anchors, KMHA feels this should be for coastal regions only.

Page 21543 - This section requires stabilizer plates to be zinc coated, KMHA feels this should be for the coastal regions only.

Page 21546 – This section talks about A-coil units (A) A-coil air conditioning units must be compatible and listed for use with the furnace in the home. It is unclear where they are listed. Different manufacturers products are compatible with other manufacturers products.

In closing, while the manufactured housing industry in Kansas understands the importance of proper installation of our homes to ensure ultimate performance and continued homeowner satisfaction, we feel it is equally import for the standards to be reasonable and relevant. Our comments suggest minor changes to the model installation standard that we feel will achieve that goal. It is our hope that the staff at HUD will take into consideration both the cost and the benefit of the suggested changes when evaluating our comments. We feel our approach to the model installation standard is reasonable and appropriate. The changes will still provide the home with adequate support, without unnecessary cost that ultimately drives up the cost of the home. In Kansas, manufactured housing is still the main provider of affordable housing and we look forward to providing Kansas with quality, affordable housing.

Sincerely,

Martha Neu Smith
Executive Director
Kansas Manufactured Housing Association

CC: Task Force on Installation

LIBERTY HOMES, INC.

Corporate Office

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June 27, 2005

RECEIVED
2005 JUN 29 A 11: 26
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HUD RULES DOCKET CLERK

Regulations Division
Office of General Counsel
Room 10276
U.S. Department of Housing and Urban Development
451 Seventh Street, S.W.
Washington, D.C. 20410-0500

To Whom It May Concern:

Re: Docket No. FR-4928 –P-01
RIN 2502-A125
Model Manufactured Home Installation Standards

As a member of the Manufactured Home Consensus Committee (MHCC) and the Installation Sub-Committee, I am very familiar and have been involved with the development of the proposed rule, 3285, Model Manufactured Home Installation Standards. I submit the following comments in regard to the referenced docket.

3285.2 Manufacturer installation instructions.
Revise the last sentence to read: Installers must follow the DAPIA-approved manufacturer's installation instructions for the aspects **not** covered by these Model Installation Standards. I believe adding the "not" clarifies instances when the manufacturer's installation should be used.

Tables 1, 2, & 3, 3285.303 and Figure C to 3285.312
Simplify these tables by keeping the "Load" column and deleting all the references to the 16" x 16" concrete footing layouts. Also delete figure C to 3285.312. This would allow utilization of loads to select the appropriate footings per note 1 (3285.312) and would eliminate the inconsistencies within the tables.

Listed below are additional concerns with the existing format.

a) Footing configurations 1 through 6 are designed using 8 x 16 piers only. This does not consider 16 x 16 piers which do not require 8" thick footings. This is overly conservative, not cost effective and should not be used as a minimum standard.
b) Footing layouts are not consistent with Table 3285.312(d). I strongly believe this simplification would help in training installers and would make this manual more effective.

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Figure A to 3285.306 – Typical Footing and Pier Installation, Single Concrete Block.
Revise 2" x 8" x 16" steel or hardwood caps…..to

- **2" x 8" x 16" hardwood caps**…. or
- Add **½" thick steel cap**… It is not practical to use 2" x 8" x16" steel caps.

3285.309 Elevated homes.
Since the tie downs and piers are designed up to 67" high, delete the "one-fourth of the area of a home" requirement and specify: **when a home is installed more that 67 inches above the top of the ……..**

Figure A (page 21531) and Figure B (page 21532)
Delete footnote 1. This is not consistent with the provisions allowed under 3285.312 (c).

Table 2 (page 21544) and Table 3 (page 21545).
a) Footnote #10 on both above referenced tables, delete **"and home manufacturer instructions"**. The installation of ground anchors must be per their instruction not the home manufacturer's instructions.
b) Delete footnote #12. This footnote would create an unsafe tie-down condition due to design variables. All spacings are designed for anchors rated at 3150 lb. Reduced spacing would require new tables. Also footnote #12 is not consistent with footnote #13.

3285.505 Crawlspace ventilation.
Revise (d) – **eliminate the word "metal".** This will allow other materials designed for ventilation openings to be used and would not limit innovation.

Figure A to 3285.702 (page 21551).
Show rings flush to the outside flange of the light as required.

Figure A to 3285.801 (page 21553).
Revise footnote (e) to allow **installers or homeowners** to provide the mate-line gasket in addition to the home manufacturer.

3285.801 (page 21554).
Section (f) Hinged roofs and eaves is implying new rules and requirements currently not in 3280. This section should be modified by **deleting 3285. 801 (f) (1) & (2)**. It should be noted that currently the majority of 7/12 hinged roofs do not require inspection. However, this paragraph implies that these roofs may be subject to the "A/C" process. Similar confusion may apply to hinged roofs in Wind Zone 2 and 3. This is a new requirement and should be addressed in 3280 standards not as part of 3285.

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Figure to 3285.803 (page 21553)
Delete "One full-sized panel no less than 16in. nor larger than 32 in.". This type of installation is not uniform and may be obsolete.

3285.804 (page 21556)
Revision to note (b). Any splits or tears must be resealed in accordance with **the manufacturer's installation instructions.** The requirement as noted is not clear and would cause confusion.

In conclusion, the proposed manual is a good step toward proper installation; however, the noted modifications would improve this manual substantially. I believe simplification of Tables 1, 2, and 3 3285 (see page 1) are essential. I urge HUD to simplify the tables by deleting the configurations in Table 1, 2 and 3 of 3285.303.

Thank you for your consideration of these comments.

Sincerely,

LIBERTY HOMES, INC.

Nader Tomasbi, P.E.
Vice President of Product Development
& Engineering Services

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320-396-2205

June 25, 2005

67

RE: Docket No. FR-4929-P001
HUD 2005-A125
RIN 2502-A125
Model Manufactured Home
Installation Standard

To whom it may concern:

I am a land lease community owner. I am writing on behalf of my company and the people leasing my land. This community was established in the mid seventies. Some of the original people leasing the land are still living on sites within this community. It is a small community, with 20 sites. It is located in the country with the leasing rates at less than $200 per month. Many of the people living in this community are on fixed incomes.

I am concerned that some of the proposed rule changes will make unnecessary financial burdens on my business and other small businesses like mine and ultimately on the consumer in terms of increased leasing rates.

Manufactured housing is still an area that allows affordable home owner ship for many who would not be able to afford a home. For some of these folks even renting is out of the question without some public assistance.

Allowing flexibility in some of the proposed rule changes would increase the quality in manufactured home ownership and yet not increase the cost to the point where it is prohibitive for the consumer and small business owner.

This industry has many experts in the manufactures of the homes and professionals who set those homes up. Who better than these expects to determine the best way to install manufactured homes. It is to their benefit that the homes are properly installed.

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This country has many different climates, a prescriptive way is not always the best or most cost effective for every region. It is important there be flexibility in the rules to ensure the best type of set up is used for the specific parts of the country.

I have read the comment letter to you from the Minnesota Manufactured Housing Association. I am in complete agreement with their comments. I am urging you to consider and use their suggestions and make those changes in the proposed rule.

Respectfully,

Nancy H Brady

Nancy H. Brady
Owner-Riverside Seniors Community

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Draft
June 21, 2005

RE: Docket No. FR-4928-P-01
HUD-2005-0006
RIN 2502-A125
Model Manufactured Home
Installation Standard

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410

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To Whom It May Concern:

I am writing on behalf of the 400 members of the Minnesota Manufactured Housing Association (MMHA) to offer comments on the Department's Proposed Rule related to Model Manufactured Home Installation Standards.

The MMHA was formed in 1951 and represents nearly 400 businesses, including manufactured home builders, installers, model home sales centers, land lease communities, banks, lenders, and mortgage companies, developers, and suppliers to the manufactured home industry. The Association works to promote quality housing that is affordable, encourages a level playing field in the public policy arena and educates its members on new home building technologies and best industry practices. It sponsors seminars and workshops, assists members with local zoning and building code concerns; provides updates on state and federal law changes, new regulations, and offers continuing education opportunities for licensed residential building contractors and real estate brokers. Over 200,000 Minnesotan's reside in a manufactured home.

Briefly, today's manufactured homes are the nation's leading provider of non-subsidized affordable housing and account for nearly 15 percent of all new single-family homes sold in Minnesota. The industry in Minnesota employs 3,000 workers at 1,500 mostly small businesses, and has an economic impact of approximately $500 million on the state's economy. Well over eighty-five percent of the nearly 2000 new manufactured homes sold in the state last year were affixed to real property and financed with conforming mortgages. For those homebuyers unable to afford their own lot, the remaining 20 percent of the new manufactured homes were placed in a land lease manufactured home community.

Manufactured homes are meeting an important need for affordable housing not only in Minnesota, but also throughout the nation. As a result, more and more people are recognizing the advantages today's manufactured homes have to offer. Manufactured homes are often times the lowest rung on the homeownership ladder as a viable option for workforce housing. For thousands of Minnesotans, particularly lower-income people and underserved populations, manufactured housing represents the difference between joining the ranks of those realizing the American dream of homeownership and remaining

perpetual renters. It was most encouraging when the Congress broadened the language in the Manufactured Housing Improvement Act of 2000 to include in the "Purposes" part a focus on retaining the affordability of manufactured homes, "(1) to protect the quality . . . and affordability of manufactured homes; (2) to facilitate the availability of affordable manufactured homes and to increase homeownership for all Americans; . . . (4) to encourage innovative and cost-effective construction techniques 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."

One of the critical elements that set the Manufactured Home Construction and Safety Standards a part from other recognized residential building codes is its being a "performance based" code, allowing factory-builders to take advantage of new construction technologies and design innovations in a timely manner to more cost efficiently meet the required outcomes of the code. In this regard, the MMHA has several concerns with the Proposed Rule.

On page 21529 and 21530 for figures "A" and "B" of 3285.306; the figures indicate that a 2-inch thick steel or hardwood cap may be used. It is not clear to the MMHA where an installer would obtain a 2-inch steel cap? The wording should indicate a 2-inch thick hardwood or ½ inch steel cap may be used.

On page 21536, under proposed rule change 3285.312 (c) (3), the suggested wording, "with acceptable engineering practice ~~and~~ or ASCE/SEI 32-01." The way the section is currently drafted it would require all engineered designs to follow the ASCE standard and does not allow for other types of designs and foundation systems. Making this change would be consistent with all other aspects of the manufactured home insofar as allowing for a performance-based standard for the installation of the home.

On pages 21528-21529; 3285.306(b)-(c) Mortared Pier Configurations; these sections for pier configurations over 36 inches in height require a mortared assembly unless otherwise specified in the manufacturer's instructions. This is completely opposite of what was submitted by the MHCC. The MHCC stated that mortar is not required for double-stacked piers unless required by the manufacturer. This requirement could conceivably cause unnecessary mortared piers if the manufacturer's manual is silent on whether mortar is required, and then the model installation standard would require mortar in all instances. This same concern also applies to one caption in Figure B to §3285.306. In all likelihood, a pier greater than 80" in height will require a mortared assembly. However, that is something that may not be in the manufacturer's instructions since a registered design professional (PE) can determine support system design. The last sentence of this section should be deleted as it serves no useful purpose and the PE design will specify whether mortar is required or not.

On pages 21502, 21510 and 21512; 3285.312(c) Placement of Footings in Freezing Climates; The MHCC draft model installation standard included insulated foundations as a method to not have pier footings extend to the frost line depth. This can be found in the MHCC draft model standard at Section 6.3.2.3. The basic intent was to include insulated skirting as an insulated foundation system, thus the reason the MHCC draft included a provision for cross-ventilation of the space under the home. In the proposed rule at §3285.312(c)(3), this statement was deleted and replaced with any system must be designed by a registered PE and conform to ASCE 32. This mandatory reference to ASCE 32 may effectively eliminate any type of insulated skirting system from being used to permit pier footings to be above the frost line.

By requiring a PE design (acceptable), and to make any system subject to ASCE 32 requirements (not acceptable), essentially eliminates insulated skirting materials from ever being used. ASCE 32 is for foundation systems composed of a basement, a slab, or a crawl space with a perimeter foundation wall. Insulated skirting, with typical piers and footings, may not be applicable to ASCE 32. There is no problem with ASCE 32 being used as an optional reference standard. Also, if using §3285.312(c)(2), for slab systems, ASCE 32 is also required for conformance. ASCE 32 will require vertical and horizontal insulation materials below grade. There is no rational reason, however, to prohibit the manufacturer's development of such designs and instructions in preference to registered engineers who may be less familiar with the home than is the manufacturer. The reasoning applies to similar provisions regarding basement sets and permanent foundations. We believe that this section should be modified to state: ".....must be designed by the manufacturer or by a registered professional engineer....." As an alternative to making the ASCE 32 an optional reference standard or revising §3285.312(c) to the original MHCC language submitted on December 2003, the MMHA would support the following performance-based language as a substitute, "Footings or foundation systems placed in freezing climates must be designed and installed using methods and practices that prevent the effects of frost heave in accordance with the manufactured home design and the requirements of the Manufactured Home Construction and Safety Standards (Part 3280)."

Under §3285.404, it is possible for ground anchors not to be installed below frost line. The model standard permits footings to be located above frost line by §3285.312(c). One can use a floating slab or insulated foundation system and have footings above frost line. If the footings which bear the vertical loads can be above frost line, then why would the anchoring system not be able to do the same? The longest ground anchor produced is 6 feet long, and in many areas of the country, it may be next to impossible to install them in all soil classifications. There should be a reference to §3285.312(c), in which the approved alternate anchoring system may be included as part of a listed or labeled foundation support system (floating slab or insulated foundation). Footnote 1 of 3285.310 Figure A requires all footings to extend below frost depth. This is contradictory to §3285.312(c), where insulated foundation systems may permit footings at grade in frost areas. The footnote should reference section §3285.312(c) for footing depths. This same comment also applies to Figure B. Section 3285.314 should state what is being referred to under this section. The described text of the proposed rule seems to be more in line with §3285.314(b). The first two sentences of this section are mainly commentary and provide no information on how or what to use when designing permanent foundation support systems for HUD Code homes. They should be deleted in their entirety. The first is in conflict with HUD's preemption for default states to not require more stringent requirements than that contained in the model standard. The model standard should make no mention of anything concerning how mortgage lenders or others can establish financing eligibility requirements for permanent foundations. This is for the financial institutions to decide and this standard needs to stay focused on the MHIA's premise, to provide a model installation standard. Financing options for the model standard are outside the scope of the MHIA and should be deleted.

The original MHCC recommendation stated the obvious. "Designs for permanent foundations (such as basements, crawl spaces, or load-bearing perimeter foundations) may be permitted to be obtained from the home manufacturer, or designed by a registered professional engineer or architect, and constructed in accordance with local building code requirements". This is the proper performance-based language for any section on permanent foundations.

Permanent foundation requirements would be specific to the installation site in question, see page 21509. With an approved state-based installation program, the LAHJ will require

the permanent foundation systems to meet the local governing building codes. This has been the case for years and there is no compelling reason to change the current path. HUD's enforcement of an installation program in default states should provide the same. The MHCC draft provided the mechanism to cover this topic. It stated that when a permanent foundation system is contemplated, the design would need to follow accepted engineering practice, be designed by the manufacturer or professional engineer, and in conformance with local governing building codes. This would seem appropriate to re-insert this language in §3285.314 to alleviate the concern.

With Minnesota having a significant depth to its frost line, by not allowing for engineered designs will have the consequence of adding thousands of dollars in costs to the purchase price of homes sited in manufactured home land-lease communities. The digging required for the installation of below frost footings or a frost-free foundation meeting the ASCE/SEI 32-01 standard will require the homeowner to also pay for the costs of relocating any underground infrastructure such as gas lines, water and sewer lines, or electrical service whenever a home's frost-free foundation system intersects the infrastructure. As drafted, the Proposed Rule would result in a substantial economic burden to the 1,200 Minnesota businesses licensed as manufactured home parks. The additional cost to a homebuyer for frost-free foundation system built to the ASCE/SEI 32-01 standard for a 1,500 square foot manufactured home in Minnesota would be at least $3,000 for a below-frost pier system and at least $6,000 for a concrete floating slab. There would also be the additional costs resulting from either the relocation of, or damage and disruption to, the underground utility infrastructure such as water and sewer lines, electric supply lines, cable and telephone lines. Many of Minnesota's 1,200 land-lease communities were built in the 1950's and 1960's when no documentation or schematics of the infrastructure was required. Approximately 50,000 land-lease manufactured home sites fall under the compliance of the Proposed Rule. Additionally, Minnesota Statute 327.20 subd.1 (3) establishes minimum set-back requirements for each manufactured home and enables municipalities to impose their own more stringent requirements as a condition of approving the development, thus manufactured home land-lease communities do not have any flexibility in being able to shift a home even a few inches on a lot to avoid the intersection of the frost-free foundation system with the existing infrastructure.

The introduction of frost-free foundation systems to manufactured home communities will require state mandated lease agreements to be modified to reflect who the responsible party will be if a home's concrete slab needs to be removed for emergency repairs or maintenance work to the park's infrastructure beneath the home. Since many of the State's land lease communities were developed pre-1980, there are not individual shut-off valves for each home site so that whenever a new frost-free foundation system is installed, the entire property will be without water/sewer service during the work done at one home site. Most of Minnesota's 1,200 manufactured home communities are small businesses, struggling to keep their vacancies low; they will likely amend their existing lease agreements and application criteria to only allow pre-owned manufactured homes that do not have to comply with the new Proposed Standard for prescriptive frost-free foundations. An unintended consequence of the Proposed Standard as drafted would be to reduce the already short supply of home sites for prospective buyers of new manufactured homes.

On page 21512; 3285.402; HUD modified the MHCC draft standard with regard to galvanizing of ground anchors, anchor equipment and stabilizing plates. This section requires ground anchors to be zinc-coated in all instances. This deviates from the HUD Code in that it requires anchoring equipment to have a resistance to weather deterioration at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz/ft^2. This would preclude other forms of known corrosion protection from being used in lieu of galvanized anchors Stainless steel, epoxy coatings, and even mill galvanizing are

acceptable methods of corrosion protection in the site-building industry. Secondly, the problem is that imported (foreign) anchors are less expensive than USA-made ground anchors with the same type of zinc galvanizing. We ask the question of HUD if the economics of requiring all zinc-coated anchors has been identified? MMHA member product suppliers state that adoption would require ground anchors to be more expensive than their foreign counter parts. Finally, not all ground anchor assemblies will require steel stabilizer plates, see §3285.402(b)(3)(ii). If a ground anchor assembly is tested to be listed or certified by the current MHCC Subcommittee/Installation ground anchor test protocol under consideration, *uses an ABS stabilizer plate*, and passes all failure criteria for a certain soil classification, can that listed or certified anchor assembly be used under this section?

On page 2147 under proposed section 3285.505 (d), it indicates that ventilation openings in the crawlspace must be covered with perforated metal coverings. This appears to limit material that is used for ventilation opening coverings and not allow other suitable material available in the marketplace such as vinyl or plastic covering. We suggest the draft language be changed: perorated ~~metal~~ coverings resistant to decay.

Regarding the codification of the proposed installation standard under 24 CFR 3280; the MMHA strongly believes that the proposed federal model installation standard should not be codified under 24 CFR 3285, but instead should become subpart of 24 CFR 3280. By codifying the installation standard under Part 3285, the MHCC will not be privy and involved (120-day comment period prior to publication) with any proposed change by HUD in the future. The MHCC is the entity Congress specifically assigned to develop the installation standard and MHI is certain that Congress fully intended for the MHCC to be directly involved in its continued maintenance and updating. As currently proposed, HUD has to only provide the MHCC review period for construction and safety standards. In the definition for manufactured home (page 21520), HUD has embraced the fact that Part 3285 is for installation standards and Part 3280 is construction and safety standards. The construction/assembly of the home and installation of the home go hand-in-hand. There should be no distinction in the federal regulations at 24 CFR 3280. This is similar to other private sector building codes where the code contains the design and construction requirements for the residential home in addition to any installation criteria that must be followed to complete the home. There should be no differentiation in the federal manufactured housing program between construction/assembly and installation. HUD will provide oversight for both components, so two separate documents (regulations) are not necessary for construction and installation.

On page 21508; 3285.202; the model installation standard should include the pocket penetrometer. The various methods to determine soil bearing capacity and classification have been deleted in lieu of accepted engineering practice. One such method, the pocket penetrometer, is a common method to determine soil-bearing capacity. It also is accepted in many states throughout the country as an appropriate method. It seems reasonable to permit the LAHJ to accept any method they feel is adequate. Therefore, it is suggested that §3285.202(a)(1) be modified to permit the LAHJ to accept any method as follows: "*Soil tests*. Soil tests that are in accordance with generally accepted engineering practice; a pocket penetrometer or other method acceptable to the LAHJ; or".

On page 21506; 3285.2; Site Preparation; there is no reason to require a professional engineer or architect to be consulted for site preparation if the manufacturer's manual does not cover it. Every manual that has been reviewed by the industry's national association and the MMHA always contains some information with regard to site preparation. It is also covered in Minnesota's Chapter 1350 Manufactured Home Installation Rules. If by chance a manual does not, then the LAHJ can be looked to for any conforming requirements. This would be an added cost burden to individual homeowners or manufactured home

HOMES OF HARMONY

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"The Manufactured Home Experts"

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Re: Docket No. FR-4928-P-01; HUD-2005-0006
RIN Number 2502-A125
Model Manufactured Home Installation Standard

I have been in the Manufactured Housing Industry for the past 30 years and hope to remain for some years to come. I am a licensed Minnesota Dealer, Manufactured Home Installer and Residential Building Contractor.

HUD was required by statue to establish Model Manufactured Home Installation Standards through the National Manufactured Housing Construction and Safety Standards Act of 1974. We all acknowledge that proper installation of the product, the home, is a very important part of the industry. The State of Minnesota has implemented its own installation program and we have worked with it successfully for a number of years. We have been able to work with the State and LAHJ on our set up issues, while still complying with the manufacturer's installation manuals.

I will now address a couple issues from the April 26th Federal Register which are of critical concern. Number 1 – Placement in Freezing Climates – page 21510 3285-312.

Here in Minnesota we have been installing homes in Manufactured Housing Communities using above frost line set up techniques in compliance with the State and also with the manufacturer's for at least 35 years. This has been accomplished by working with the manufacturer's installation manual.

HUD is now imposing an Installation Standard that would require that a home placed in one of those Manufactured Home Communities now be placed on a footing below the frost line of at least 42 inches or on a monolithic slab or insulated foundation above the frost line provided they are designed by a professional engineer or architect and conform to the nationally recognized consensus standard, SEI/ASCE 32-01 and acceptable engineering practice. If this can be accomplished, and I don't believe it can, this still adds $5,000.00 to $7,000.00 and possibly more in some cases to the set up costs.

My question is WHY?? Why should a consumer be forced to add $5,000.00 to $7,000.00 for this type of footing if he does not want to? Tearing up an existing pad in an existing park to comply with a HUD Model Standard that is not in existence currently? The language of the Act as set forth in 3285.1 of the proposed rule, the Model Installation Standard, is to establish Minimum levels of protection to residents of Manufactured Homes. Furthermore HUD was instructed by the Act to "facilitate the availability of affordable manufactured homes and to increase home ownership for all Americans." How can we increase the availability if we have added thousands of dollars as a now forced cost as opposed to an option for the consumer to pick his choice and cost when buying? Any consumer desiring to place a manufactured home in an existing manufactured community would now be forced to comply with this Standard. HUD was to adopt a Minimum Standard, not a Maximum Standard.

This now leads to the Regulatory Flexibility Act. Supposedly HUD has conducted a material and labor cost analysis for this rule. I do not see how adding thousands of dollars to the in park set up, as we will be required to do in Minnesota and other freezing climate states, has been taken into consideration when HUD arrives at $133.00 to $151.00 cost increase. On page 21517 of the Federal Register, "The Secretary, in accordance with the Regulatory Flexibility Act [5 U.S.C. 605[b], has reviewed and approved this proposed rule and in so doing certifies that the rule would not have a significant economic impact on a substantial number of small entities." I question if the Secretary in the Certification has taken into consideration the consumer or the individual park owner that is now faced with this increase. I am sure these "entities" feel this will be a Significant Impact on all existing Manufactured Home Communities and all consumers desiring to place a home in those communities that should be a significant number.

Page 21500 you also state, "Seismic safety has not been addressed in this proposed rule primarily because seismic safety is not a required consideration in the construction of manufactured homes under the preemptive Manufactured Home Construction and Safety Standards {24 CFR part 3280}. Why shouldn't the freezing climate be addressed the same way? The state would still have authority to implement and enforce, plus the manufacturer and its DAIPA would be able to authorize their required set up instructions in the respective installation manual.

There are a number of issues to address if HUD is to include frost line footings in the proposed rule:

1) If in an existing manufactured home community, who is responsible for installing the frost depth footings, who is responsible for removal of the footings when the home is moved?

2) Who is to bear the cost: the consumer, the park owner or the retailer as the manufacturers certainly will not.

3) Realize that these footings will be home specific as the placement of footings will depend on the individual home and or manufacturer and can not be used on the next home to be placed on the site as the size of the home may be different let alone the location of doors, windows and archways as these will be required to have frost footings also or have the monolithic slab designed for them.

4) This will eliminate a consumer being able to place a home in a park with the possibility of moving it, without incurring the added frost line cost of thousands of dollars, TWICE.

5) FEMA would also not be able to use the manufactured home in freezing climates without incurring the same additional cost for a short term emergency housing need.

It is not appropriate for the Model {Minimum} Standard to require frost line footings or a monolithic slab; this should be an option to the homeowner, to have a foundation of choice. To make it mandatory is overkill and also unaffordable.

In summary: For the Manufacturers – Each Manufacturer's DAIPA must approve their installation manual so that it meets or exceeds the Model Minimum installation requirements. Therefore if a manufacturer desires to have their homes placed in an existing manufactured home community, with out frost footings or a monolithic slab, they must have DPPIA approval and instructions as to how in their installation manual to be in compliance.

For the State---This Model Standard proposed rule is one part of a comprehensive installation program that each State could use as a basis to develop its own installation program

Thanking You In Advance

Dennis Kieffer, President
Homes of Harmony Inc

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June 23, 2005

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RE: Docket No. FR-4928-P-01
HUD-2005-0006
RIN 2502-A125
Model Manufactured Home
Installation Standard

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410

To Whom It May Concern:

We are a company that has been in the manufactured housing business for the last 40 years. We have been in most all facets of business from sales, installation in communities and private property, property development, community ownership, construction and real estate.

I am writing on behalf of the 400 members of the Minnesota Manufactured Housing Association (MMHA) to offer comments on the Department's Proposed Rule related to Model Manufactured Home Installation Standards.

The MMHA was formed in 1951 and represents nearly 400 businesses, including manufactured home builders, installers, model home sales centers, land lease communities, banks, lenders, and mortgage companies, developers, and suppliers to the manufactured home industry. The Association works to promote quality housing that is affordable, encourages a level playing field in the public policy arena and educates its members on new home building technologies and best industry practices. It sponsors seminars and workshops, assists members with local zoning and building code concerns; provides updates on state and federal law changes, new regulations, and offers continuing education opportunities for licensed residential building contractors and real estate brokers. Over 200,000 Minnesotan's reside in a manufactured home.

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Briefly, today's manufactured homes are the nation's leading provider of non-subsidized affordable housing and account for nearly 15 percent of all new single-family homes sold in Minnesota. The industry in Minnesota employs 3,000 workers at 1,500 mostly small businesses, and has an economic impact of approximately $500 million on the state's economy. Well over eighty-five percent of the nearly 2000 new manufactured homes sold in the state last year were affixed to real property and financed with conforming mortgages.
For those homebuyers unable to afford their own lot, the remaining 20 percent of the new manufactured homes were placed in a land lease manufactured home community.

Manufactured homes are meeting an important need for affordable housing not only in Minnesota, but also throughout the nation. As a result, more and more people are recognizing the advantages today's manufactured homes have to offer. Manufactured homes are often times the lowest rung on the homeownership ladder as a viable option for workforce housing. For thousands of Minnesotans, particularly lower-income people and underserved populations, manufactured housing represents the difference between joining the ranks of those realizing the American dream of homeownership and remaining perpetual renters. It was most encouraging when the Congress broadened the language in the Manufactured Housing Improvement Act of 2000 to include in the "Purposes" part a focus on retaining the affordability of manufactured homes, "(1) to protect the quality . . . and affordability of manufactured homes; (2) to facilitate the availability of affordable manufactured homes and to increase homeownership for all Americans; . . . (4) to encourage innovative and cost-effective construction techniques 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."

One of the critical elements that set the Manufactured Home Construction and Safety Standards a part from other recognized residential building codes is its being a "performance based" code, allowing factory-builders to take advantage of new construction technologies and design innovations in a timely manner to more cost efficiently meet the required outcomes of the code. In this regard, the MMHA has several concerns with the Proposed Rule.

On page 21529 and 21530 for figures "A" and "B" of 3285.306; the figures indicate that a 2-inch thick steel or hardwood cap may be used. It is not clear to the MMHA where an installer would obtain a 2-inch steel cap? The wording should indicate a 2-inch thick hardwood or ½ inch steel cap may be used.

On page 21536, under proposed rule change 3285.312 (c) (3), the suggested wording, "with acceptable engineering practice ~~and~~ or ASCE/SEI 32-01." The way the section is currently drafted it would require all engineered designs to follow the ASCE standard and does not allow for other types of designs and foundation systems. Making this change would be consistent with all other aspects of the manufactured home insofar as allowing for a performance-based standard for the installation of the home.

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On pages 21528-21529; 3285.306(b)-(c) Mortared Pier Configurations; these sections for pier configurations over 36 inches in height require a mortared assembly unless otherwise specified in the manufacturer's instructions. This is completely opposite of what was submitted by the MHCC. The MHCC stated that mortar is not required for double-stacked piers unless required by the manufacturer. This requirement could conceivably cause unnecessary mortared piers if the manufacturer's manual is silent on whether mortar is required, and then the model installation standard would require mortar in all instances.
This same concern also applies to one caption in Figure B to §3285.306. In all likelihood, a pier greater than 80" in height will require a mortared assembly. However, that is something that may not be in the manufacturer's instructions since a registered design professional (PE) can determine support system design.
The last sentence of this section should be deleted as it serves no useful purpose and the PE design will specify whether mortar is required or not.

On pages 21502, 21510 and 21512; 3285.312(c) Placement of Footings in Freezing Climates; The MHCC draft model installation standard included insulated foundations as a method to not have pier footings extend to the frost line depth. This can be found in the MHCC draft model standard at Section 6.3.2.3. The basic intent was to include insulated skirting as an insulated foundation system, thus the reason the MHCC draft included a provision for cross-ventilation of the space under the home. In the proposed rule at §3285.312(c) (3), this statement was deleted and replaced with any system must be designed by a registered PE and conform to ASCE 32. This mandatory reference to ASCE 32 may effectively eliminate any type of insulated skirting system from being used to permit pier footings to be above the frost line.

By requiring a PE design (acceptable), and to make any system subject to ASCE 32 requirements (not acceptable), essentially eliminates insulated skirting materials from ever being used. ASCE 32 is for foundation systems composed of a basement, a slab, or a crawl space with a perimeter foundation wall. Insulated skirting, with typical piers and footings, may not be applicable to ASCE 32. There is no problem with ASCE 32 being used as an optional reference standard. Also, if using §3285.312(c) (2), for slab systems, ASCE 32 is also required for conformance. ASCE 32 will require vertical and horizontal insulation materials below grade. There is no rational reason, however, to prohibit the manufacturer's development of such designs and instructions in preference to registered engineers who may be less familiar with the home than is the manufacturer. The reasoning applies to similar provisions regarding basement sets and permanent foundations. We believe that this section should be modified to state: ".....must be designed by the manufacturer or by a registered professional engineer....."
As an alternative to making the ASCE 32 an optional reference standard or revising §3285.312(c) to the original MHCC language submitted on December 2003, the MMHA would support the following performance-based language as a substitute, "Footings or foundation systems placed in freezing climates must be designed and installed using methods and practices that prevent the effects of frost heave in accordance with the manufactured home design and the requirements of the Manufactured Home Construction and Safety Standards (Part 3280)."

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Under §3285.404, it is possible for ground anchors not to be installed below frost line. The model standard permits footings to be located above frost line by §3285.312(c). One can use a floating slab or insulated foundation system and have footings above frost line. If the footings which bear the vertical loads can be above frost line, then why would the anchoring system not be able to do the same? The longest ground anchor produced is 6 feet long, and in many areas of the country, it may be next to impossible to install them in all soil classifications.
There should be a reference to §3285.312(c), in which the approved alternate anchoring system may be included as part of a listed or labeled foundation support system (floating slab or insulated foundation). Footnote 1 of 3285.310 Figure A requires all footings to extend below frost depth.
This is contradictory to §3285.312(c), where insulated foundation systems may permit footings at grade in frost areas. The footnote should reference section §3285.312(c) for footing depths. This same comment also applies to Figure B.

Section 3285.314 should state what is being referred to under this section. The described text of the proposed rule seems to be more in line with §3285.314(b). The first two sentences of this section are mainly commentary and provide no information on how or what to use when designing permanent foundation support systems for HUD Code homes. They should be deleted in their entirety. The first is in conflict with HUD's preemption for default states to not require more stringent requirements than that contained in the model standard. The model standard should make no mention of anything concerning how mortgage lenders or others can establish financing eligibility requirements for permanent foundations. This is for the financial institutions to decide and this standard needs to stay focused on the MHIA's premise, to provide a model installation standard. Financing options for the model standard are outside the scope of the MHIA and should be deleted.

The original MHCC recommendation stated the obvious. "Designs for permanent foundations (such as basements, crawl spaces, or load-bearing perimeter foundations) may be permitted to be obtained from the home manufacturer, or designed by a registered professional engineer or architect, and constructed in accordance with local building code requirements". This is the proper performance-based language for any section on permanent foundations.

Permanent foundation requirements would be specific to the installation site in question, see page 21509. With an approved state-based installation program, the LAHJ will require the permanent foundation systems to meet the local governing building codes. This has been the case for years and there is no compelling reason to change the current path. HUD's enforcement of an installation program in default states should provide the same. The MHCC draft provided the mechanism to cover this topic. It stated that <u>when</u> a permanent foundation system is contemplated, the design would need to follow accepted engineering practice, be designed by the manufacturer or professional engineer, and in conformance with local governing building codes. This would seem appropriate to re-insert this language in §3285.314 to alleviate the concern.

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With Minnesota having a significant depth to its frost line, by not allowing for engineered designs will have the consequence of adding thousands of dollars in costs to the purchase price of homes sited in manufactured home land-lease communities.

The digging required for the installation of below frost footings or a frost-free foundation meeting the ASCE/SEI 32-01 standard will require the homeowner to also pay for the costs of relocating any underground infrastructure such as gas lines, water and sewer lines, or electrical service whenever a home's frost-free foundation system intersects the infrastructure. As drafted, the Proposed Rule would result in a substantial economic burden to the 1,200 Minnesota businesses licensed as manufactured home parks.

The additional cost to a homebuyer for frost-free foundation system built to the ASCE/SEI 32-01 standard for a 1,500 square foot manufactured home in Minnesota would be at least $3,000 for a below-frost pier system and at least $6,000 for a concrete floating slab. There would also be the additional costs resulting from either the relocation of, or damage and disruption to, the underground utility infrastructure such as water and sewer lines, electric supply lines, cable and telephone lines.
Many of Minnesota's 1,200 land-lease communities were built in the 1950's and 1960's when no documentation or schematics of the infrastructure was required.
Approximately 50,000 land-lease manufactured home sites fall under the compliance of the Proposed Rule. Additionally, Minnesota Statute 327.20 subd.1 (3) establishes minimum set-back requirements for each manufactured home and enables municipalities to impose their own more stringent requirements as a condition of approving the development, thus manufactured home land-lease communities do not have any flexibility in being able to shift a home even a few inches on a lot to avoid the intersection of the frost-free foundation system with the existing infrastructure.

The introduction of frost-free foundation systems to manufactured home communities will require state mandated lease agreements to be modified to reflect who the responsible party will be if a home's concrete slab needs to be removed for emergency repairs or maintenance work to the park's infrastructure beneath the home. Since many of the State's land lease communities were developed pre-1980, there are not individual shut-off valves for each home site so that whenever a new frost-free foundation system is installed, the entire property will be without water/sewer service during the work done at one home site. Most of Minnesota's 1,200 manufactured home communities are small businesses, struggling to keep their vacancies low; they will likely amend their existing lease agreements and application criteria to only allow pre-owned manufactured homes that do not have to comply with the new Proposed Standard for prescriptive frost-free foundations. An unintended consequence of the Proposed Standard as drafted would be to reduce the already short supply of home sites for prospective buyers of new manufactured homes.

On page 21512; 3285.402; HUD modified the MHCC draft standard with regard to galvanizing of ground anchors, anchor equipment and stabilizing plates. This section

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requires ground anchors to be zinc-coated in all instances. This deviates from the HUD Code in that it requires anchoring equipment to have a resistance to weather deterioration at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz/ft^2. This would preclude other forms of known corrosion protection from being used in lieu of galvanized anchors. Stainless steel, epoxy coatings, and even mill galvanizing are acceptable methods of corrosion protection in the site-building industry. Secondly, the problem is that imported (foreign) anchors are less expensive than USA-made ground anchors with the same type of zinc galvanizing. We ask the question of HUD if the economics of requiring all zinc-coated anchors has been identified? MMHA member product suppliers state that adoption would require ground anchors to be more expensive than their foreign counter parts. Finally, not all ground anchor assemblies will require steel stabilizer plates, see §3285.402(b)(3)(ii).

If a ground anchor assembly is tested to be listed or certified by the current MHCC Subcommittee/Installation ground anchor test protocol under consideration, *uses an ABS stabilizer plate*, and passes all failure criteria for a certain soil classification, can that listed or certified anchor assembly be used under this section?

On page 2147 under proposed section 3285.505 (d); it indicates that ventilation openings in the crawlspace must be covered with perforated metal coverings. This appears to limit material that is used for ventilation opening coverings and not allow other suitable material available in the marketplace such as vinyl or plastic covering. We suggest the draft language be changed: perorated ~~metal~~ coverings resistant to decay.

Regarding the codification of the proposed installation standard under 24 CFR 3280; the MMHA strongly believes that the proposed federal model installation standard should not be codified under 24 CFR 3285, but instead should become subpart of 24 CFR 3280. By codifying the installation standard under Part 3285, the MHCC will not be privy and involved (120-day comment period prior to publication) with any proposed change by HUD in the future. The MHCC is the entity Congress specifically assigned to develop the installation standard and MHI is certain that Congress fully intended for the MHCC to be directly involved in its continued maintenance and updating. As currently proposed, HUD has to only provide the MHCC review period for construction and safety standards. In the definition for manufactured home (page 21520), HUD has embraced the fact that Part 3285 is for installation standards and Part 3280 is construction and safety standards. The construction/assembly of the home and installation of the home go hand-in-hand. There should be no distinction in the federal regulations at 24 CFR 3280. This is similar to other private sector building codes where the code contains the design and construction requirements for the residential home in addition to any installation criteria that must be followed to complete the home. There should be no differentiation in the federal manufactured housing program between construction/assembly and installation. HUD will provide oversight for both components, so two separate documents (regulations) are not necessary for construction and installation.

On page 21508; 3285.202; the model installation standard should include the pocket penetrometer. The various methods to determine soil bearing capacity and classification

have been deleted in lieu of accepted engineering practice. One such method, the pocket penetrometer, is a common method to determine soil-bearing capacity. It also is accepted in many states throughout the country as an appropriate method. It seems reasonable to permit the LAHJ to accept any method they feel is adequate.

Therefore, it is suggested that §3285.202(a)(1) be modified to permit the LAHJ to accept any method as follows: "*Soil tests*. Soil tests that are in accordance with generally accepted engineering practice; a pocket penetrometer or other method acceptable to the LAHJ; or".

On page 21506; 3285.2; Site Preparation; there is no reason to require a professional engineer or architect to be consulted for site preparation if the manufacturer's manual does not cover it. Every manual that has been reviewed by the industry's national association and the MMHA always contains some information with regard to site preparation. It is also covered in Minnesota's Chapter 1350 Manufactured Home Installation Rules. If by chance a manual does not, then the LAHJ can be looked to for any conforming requirements. This would be an added cost burden to individual homeowners or manufactured home community owners. Installers already must determine soil bearing capacity and classification that relates to selecting the appropriate footings, pier configurations and ground anchor spacing.

On page 21505 and 21518; 3285.1(a); Applicability-The proposed rule is applicable only to the initial installation of the new home. States could enact the model installation standard to apply to secondary moves if so desired. At present, the model standard covers only new installations and states are left open to determine what requirements are necessary for secondary moves. These requirements could take the form of enactment of criteria found in existing state installation standards, enactment of new installation standards through state law or compliance with local requirements. The MMHA believes this is important and that it should be retained in the Final Rule.

On page 21504 and 21512; 3285.801(f); All Hinged Roofs to be Applicable Hinged roofs are not subject to AC letters or On-Site Completion when only in Wind Zone I, limited to a 7:12 roof pitch and cannot have any flue penetration above the hinge. The model standard should be extended to cover any hinged roof regardless of wind zone, roof pitch or flue penetration. This is a normal construction sequence that is occurring more and more frequently for HUD Code home installations. The manufacturer can provide installation instructions for hinged roofs that conform to the HUD Code. These instructions would require DAPIA approval. This is no different than providing installation instructions for marriage line/crossover connections, alternate ground anchor assembly spacing that meets/exceeds the model installation standard, or close-up details for multi-section homes.

The option of placing hinged roofs under the model installation standard would save considerable money with regard to IPIA inspection under the on-site completion rule, and considerable time under the AC letter process. This is not a new form of HUD Code assembly and it has been performed for years. Time has shown that industry can treat hinged roofs as installation set-up without departmental oversight.

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On page 21504, this same suggestion for the model standard to cover all hinged roof applications is covered. A hinged roof should be treated as construction of the home's roof assembly and subject to the requirements of the HUD Code. Once these hinged roofs are placed, they would have to conform to the HUD Code.
This would be evident for hinged roofs in all Wind Zones, and not just Wind Zone I as HUD has specified in the proposed rule. As long as a hinged roof, in any Wind Zone, under any condition complies with the HUD Code after installation, it should not be subject to either on-site completion or an AC letter. If the hinged roof after installation fails to meet the HUD Code, then AC letters should be required.

On page 21499 and 21500; Complete Home Installation and Close-Up Assembly.
The MHCC encouraged the inclusion of close-up activities in developing its draft model standard. The main emphasis was to provide the installer of the home with all the necessary information they would need to complete the home.
We understand that HUD has labored on the fact that inspection of the close-up activities will be required in all instances. However, that is not necessarily the case, especially for states like Minnesota that have a self-certified installation program. In states enforcing their own installation program, they may not require 100 percent inspection for home installations. They may only require 50 percent or below, which is their right under the MHIA §605(c)(3)(C). The MHIA only states that inspection must be performed for a qualified state inspection program but it is silent on the frequency of inspections. In a default state that is administered by the department, 100 percent inspections of close-up activities could be required depending on what frequency of inspection will be required in default states under the remaining portion of the installation program.

How can the manufacturer be responsible for close-up work when the person installing the home may not be under contract with or under the supervision of that particular manufacturer? Manufacturers can only control the close-up activity when they use their own set-up crews to install homes (as some do). However, to make the manufacturer responsible for every one of their home's installations is not practical or possible without an extraordinary expense to hire third-party agencies to perform the inspections.

Close-up should be a part of the installation of the home and the responsibility of the installer or in some cases the retailer. Thus, close-up becomes part of the installation process of home completion. In many instances, the manufacturer has no control or oversight over the installer when contracted under the home's retailer, so the onus should fall on who contracts with the installer to set the home.

Requiring close-up inspections would add cost to the overall inspection process because it is doubtful that one inspection for the setting of the home, and additional inspection for close-up, could be completed at the same time. If Minnesota has not had problems with home close-ups, then why should the model standard require it as a minimum? This is to be a minimum standard for installing the home, not a maximum. The MHIA does not specify the type of inspection that must be performed, only that inspection is provided. This could be the start of a laundry list of inspections the Department feels is

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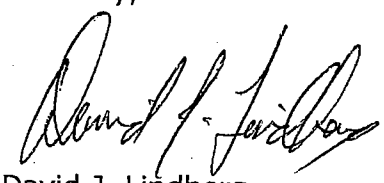
necessary to properly install the home. It should be up to each individual state to determine what they deem necessary for proper installation of the home.

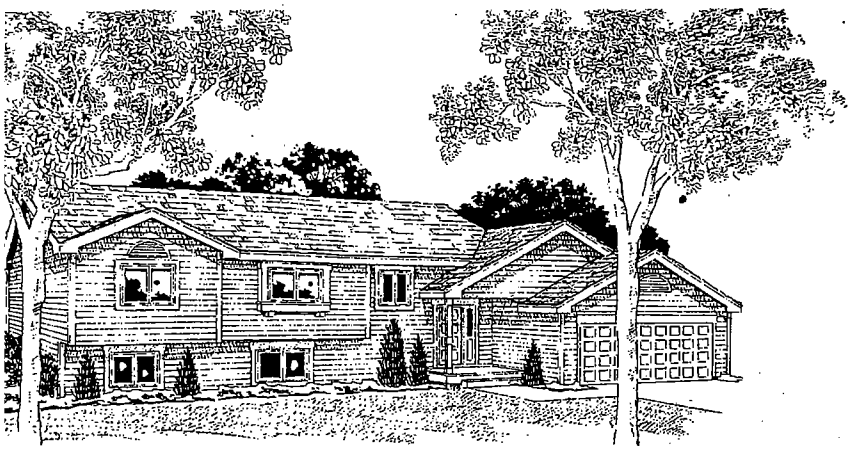
A basic premise under the Proposed Rule is that manufacturers' installation instructions must meet/exceed the model standard. The instructions cannot take the home out of compliance with the HUD Code and must provide adequate instructions to properly complete the home. However, the MHIA is intended to provide relief from the most common complaints known to industry, improper set-up of the home. This is responsible for a majority of complaints that retailers and manufacturers receive. It is why other parts of the installation program are specifically geared towards improving the training and licensing/certification of installers, see MHIA §605(c)(3)(B).

The MMHA believes that a workable model installation standard can serve the industry well by bringing more uniformity to installation standards in like climates and provide a higher-level of consumer satisfaction. It is important the Final Rule be balanced to reflect the continuity of performance based standards from the construction of the home to the installation standards of the home, thus encouraging innovations and marketplace cost savings in meeting the required outcomes of the model installation standard. Thank you.

Sincerely,



David J. Lindberg
President



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June 21, 2005

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410

RE: Docket No. FR-4928-P-01
HUD-2005-0006
RIN 2502-A125
Model Manufactured Home
Installation Standard

To Whom It May Concern:

As a member of the Minnesota Manufactured Housing Association (MMHA) and President of Anderson Homes, Inc. I am writing to voice my concern on the Department's Proposed Rule related to Model Manufactured Home Installation Standards.

The first issue of concern I would like to address is Placement of Footings in Freezing Climates. The proposed rule on page 21510 3285.312 is requiring that a home placed in a Manufactured Home Community be placed on a footing below the frost line of at least 42 inches or on a monolithic slab or insulated foundation above the frost line provided they are designed by a professional engineer or architect and conform to the nationally recognized consensus standard, SEI/ASCE 32-01 and acceptable engineering practice. Not allowing for engineered designs will have the consequence of adding thousands of dollars in costs to the purchase price of homes placed in manufactured home communities, not to mention the additional costs resulting from either the relocation of, or damage and disruption to, the underground utility infrastructure such as water and sewer lines, electric supply lines, cable and telephone lines.

HUD was instructed by the Act to "facilitate the availability of affordable manufactured homes and to increase home ownership for all Americans." How can we possibly be facilitating the availability of manufactured homes by forcing onto the consumer an additional cost of thousands of dollars?

The second issue of concern I would like to address is on pages 21528-21529; 3285.306(b)-(c) Mortared Pier Configurations. These sections for pier configurations over 36 inches in height require a mortared assembly unless otherwise specified in the manufacturer's instructions. This is completely opposite of what was submitted by the MHCC. The MHCC stated that mortar is not required for double-stacked piers unless required by the manufacturer. This requirement could conceivably cause unnecessary mortared piers if the manufacturer's manual is silent on whether mortar is required, and then the model installation standard would require mortar in all instances.

The third issue I would like to address is that on page 21508; 3285.202; the model installation standard does not include the pocket penetrometer. This method is a common method to determine soil-bearing capacity. It is accepted in many states throughout the country as and appropriate method and it seems reasonable to permit the LAHJ to accept any method they feel is adequate.

The last issue I would like to address is that of site preparation. The HUD draft requires a professional engineer or architect to be consulted for site preparation if the manufacturer's manual does not cover it. I feel this is not necessary because every manual that has been reviewed by the industry's national association and the MMHA always contains some information with regard to site preparation. It is also covered in Minnesota's Chapter 1350 Manufactured Home Installation Rules. If by chance a manual does not, then the LAHJ can be looked to for any conforming requirements. This would be an added cost burden to individual homeowners. Installers already must determine soil bearing capacity and classification that relates to selecting the appropriate footings, pier configurations and ground anchor spacing.

I believe that the above issues can be modified to provide a higher-level of consumer satisfaction. It is important that they be modified to encourage innovations and marketplace cost savings in meeting the required outcomes of the model installation standard.

Sincerely,

Mike Anderson

Mike Anderson
President

Eastwood Estates, Inc.

P.O. Box 229
Sebeka, MN 56477

June 21, 2005

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Regulations Division
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Washington, DC 20410

RE: Docket No. FR-4928-P-01
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To Whom It May Concern:

As a member of the Minnesota Manufactured Housing Association (MMHA) and owner of Twin Haven Estate, Inc. a manufactured housing community, I am writing to voice my concern on the Department's Proposed Rule related to Model Manufactured Home Installation Standards.

The first issue of concern I would like to address is Placement of Footings in Freezing Climates. The proposed rule on page 21510 3285.312 is requiring that a home placed in a Manufactured Home Community be placed on a footing below the frost line of at least 42 inches or on a monolithic slab or insulated foundation above the frost line provided they are designed by a professional engineer or architect and conform to the nationally recognized consensus standard, SEI/ASCE 32-01 and acceptable engineering practice. Not allowing for engineered designs will have the consequence of adding thousands of dollars in costs to the purchase price of homes placed in manufactured home communities, not to mention the additional costs resulting from either the relocation of, or damage and disruption to, the underground utility infrastructure such as water and sewer lines, electric supply lines, cable and telephone lines.

HUD was instructed by the Act to "facilitate the availability of affordable manufactured homes and to increase home ownership for all Americans." How can we possibly be

facilitating the availability of manufactured homes by forcing onto the consumer an additional cost of thousands of dollars?

The second issue of concern I would like to address is on pages 21528-21529; 3285.306(b)-(c) Mortared Pier Configurations. These sections for pier configurations over 36 inches in height require a mortared assembly unless otherwise specified in the manufacturer's instructions. This is completely opposite of what was submitted by the MHCC. The MHCC stated that mortar is not required for double-stacked piers unless required by the manufacturer. This requirement could conceivably cause unnecessary mortared piers if the manufacturer's manual is silent on whether mortar is required, and then the model installation standard would require mortar in all instances.

The third issue I would like to address is that on page 21508; 3285.202; the model installation standard does not include the pocket penetrometer. This method is a common method to determine soil-bearing capacity. It is accepted in many states throughout the country as and appropriate method and it seems reasonable to permit the LAHJ to accept any method they feel is adequate.

The last issue I would like to address is that of site preparation. The HUD draft requires a professional engineer or architect to be consulted for site preparation if the manufacturer's manual does not cover it. I feel this is not necessary because every manual that has been reviewed by the industry's national association and the MMHA always contains some information with regard to site preparation. It is also covered in Minnesota's Chapter 1350 Manufactured Home Installation Rules. If by chance a manual does not, then the LAHJ can be looked to for any conforming requirements. This would be an added cost burden to individual homeowners. Installers already must determine soil bearing capacity and classification that relates to selecting the appropriate footings, pier configurations and ground anchor spacing.

I believe that the above issues can be modified to provide a higher-level of consumer satisfaction. It is important that they be modified to encourage innovations and marketplace cost savings in meeting the required outcomes of the model installation standard.

Sincerely,

Mark Anderson

Twin Haven Estates, Inc.

P.O. Box 229
Sebeka, MN 56477

June 21, 2005

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Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410

RE: Docket No. FR-4928-P-01
HUD-2005-0006
RIN 2502-A125
Model Manufactured Home
Installation Standard

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Mark Anderson

Partner Agencies Dockets

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Document Detail: HUD-2005-0006-0026

Document Detail: HUD-2005-0006-0026

Agency Docket Number:

Agency Document Number:

Document ID: HUD-2005-0006-0026

Docket ID: HUD-2005-0006

Title: Comment submitted Mary Gaiski, PHC, Executive Vice President, Pennsylvania Manufactured Housing Association (PMHA)

Description: This comment is incomplete. The submitted comment exceeded the amount of characters allowed for the field. Please see the attached document for the remainder of this comment.

Type: Public Comment

Phase: Proposed Rule

Company/Group/Association Name: Pennsylvania Manufactured Housing Association (PMHA)

Author Date (mm/dd/yyyy): 06-23-2005

Effective Date:

Comment: June 23, 2005 Regulations Division Office of General Counsel Department of Housing and Urban Development 451 Seventh Street, S.W. Room 10276 Washington, DC 20410-0500 Re: Docket No: FR-4928-P-01 Dear Sir or Madam: On behalf of the manufactured housing industry in Pennsylvania the Pennsylvania Manufactured Housing Association (PMHA) would like to present you with our comments and concerns regarding the proposed rule of the Manufactured Home Installation Standards. We represent over 650 members involved in all segments of the industry. Our concerns are as follows: ? The proposed regulations suggest codifying the model installation standard under a separate regulation 24 CFR 3285. We have concern with this in that we feel it is not within the legal limits of the Act. Also, installation is part of construction and assembly of the home ? construction and assembly is addressed under 24 CFR 3280 therefore the installation regulations should come under that as well. By separating it from the rest of the program will remove installation issues from the oversight duties of the MHCC which again was not intended by the Act. ? Preemption is jeopardized in the proposed regulations by allowing default states or its municipalities to establish more stringent requirements for home installations. States have had five years to develop a program to meet the mandates of MHIA of

74

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PMHA
pennsylvania manufactured housing association

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Web site: www.pmha.org • E-mail: general@pmha.org

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June 23, 2005

Regulations Division
Office of General Counsel
Department of Housing and Urban Development
451 Seventh Street, S.W.
Room 10276
Washington, DC 20410-0500

Re: Docket No: FR-4928-P-01

Dear Sir or Madam:

On behalf of the manufactured housing industry in Pennsylvania the Pennsylvania Manufactured Housing Association (PMHA) would like to present you with our comments and concerns regarding the proposed rule of the Manufactured Home Installation Standards. We represent over 650 members involved in all segments of the industry.

Our concerns are as follows:

- The proposed regulations suggest codifying the model installation standard under a separate regulation 24 CFR 3285. We have concern with this in that we feel it is not within the legal limits of the Act. Also, installation is part of construction and assembly of the home – construction and assembly is addressed under 24 CFR 3280 therefore the installation regulations should come under that as well. By separating it from the rest of the program will remove installation issues from the oversight duties of the MHCC which again was not intended by the Act.
- Preemption is jeopardized in the proposed regulations by allowing default states or its municipalities to establish more stringent requirements for home installations. States have had five years to develop a program to meet the mandates of MHIA of 2000. It is our position, by not doing so they have given up their right to establish or implement its own installation program. Speaking from

experience this will give local government bodies the green light to establish more creative ways to zone out manufactured housing by implementing costly and prohibitive methods to install manufactured homes. They do it today and will continue if they are allowed.

- We were surprised to find that the model standard failed to identify or define manufactured home installers. From experience the installation of a home is rarely installed by one individual. The process – from arrival to site to turning the key over to the first purchaser – is performed by many individuals. Therefore identifying one responsible person and naming them installer is most difficult. Without assigning specific responsibilities it will be most difficult to help consumers resolve problems.

- The proposed model installation standards allow outside sources to greatly impact the installation of the home by instructing the installer to seek the services of professional engineers or registered architects. Our concern is that this will once again decay preemption and greatly increase costs to the bottom line of the home. The model language needs to preserve the validity of the manufacturers design and make sure that all changes at the site are consistent with the intent of the design. In doing so preemption is preserved and costs are maintained.

- The proposed installation standards are comprised solely of prescriptive requirements, while the Manufactured Home Construction and Safety Standards are performance-based. The performance nature of our code is the heart of the program! It allows our manufacturers through innovation to be flexible with their designs and implement new technologies quicker, which in turn guarantees the affordability of the homes. To take a performance-based home design and a prescriptive installation method ties the hands for innovation and drives up the cost of the installation. After review in our state the cost is going to be several thousands of dollars more per home, while at the same time not guaranteeing the consumer a better home.

- By requiring prescriptive requirements there are many areas of the model installation standard that would conflict with the construction and safety standards. Many of these issues are already addressed in the Manufactured Home Construction and Safety Standards and should remain there – once again supporting our position to not place the installation standards in a stand alone regulation.

Site Preparation – by requiring prescribed methods to test the soil – which only a soil engineer can do – you are driving up the cost since many local authorities do not have established soil bearings. We suggest allowing the use of established model codes such as the 2003 International Residential Code which establishes a minimum bearing of 1500 psf. The default approach is also recognized and encouraged by the Pennsylvania Housing Research Center (PHRC), Technical Brief (TB0201) – *Site Design Considerations for Manufactured Housing.*

Foundations – requiring foundations systems that are not pier and footing type to be designed by an engineer once again increases costs to the consumer. Approximately one half of all manufactured homes sited in Pennsylvania are placed on full perimeter masonry foundations. The proposed regulations do not address such a method and if used instructs the "installer" to seek professional engineering to design the foundation. This additional cost will be passed on to the consumer. A typical home today is a 12'-14' wide with 4" eaves, the methods described in the model installation standards represent a minimum, based on a 16-wide with 12" eaves – doing this is overbuilding which results in increased costs to the consumer.

Frost Protection – methods outlined in the proposed installation standard is prescriptive and once again drives up costs. The standard should state "protected from frost" leaving the method of doing so up to the manufacturer or acceptable practices of that state. Outlining prescriptive methods does not allow for new technologies and other methods such as floating slab systems. Studies have been done in several states – including Pennsylvania (PHRC TB 0101 – *Soil Freeze Depth Guide for Manufactured Housing In PA*) – that show frost penetration under a skirted home diminishes significantly when compared to a home not skirted.

Ground Anchor Strapping – the proposed standard provides for zinc coating and only permits the use of straps while 3280 permits equivalent performance for both corrosion resistance and holding power.

Piers - Concrete Blocks – the standard is proposing to require frame and corner piers constructed to 36" to 80" high to be mortared. Under DAPIA approved methods and other model building codes he industry has been successfully interlocking the block for piers of those heights. Mandating the mortaring of the piers will once again add unnecessary costs to the installation of the home.

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In conclusion, we respectively ask that the proposed Manufactured Home Installation Standards not be advanced in their current form and changes be made consistent with the purpose of the Manufactured Housing Construction and Safety Standards Act. As we have stated several times the proposed installation standards will negatively impact the affordability of manufactured homes due to excessive and outdated installation methods outlined in the model installations standards.

We appreciate the opportunity to comment on the proposed rule. The industry has advanced over the years due to the protections and affordability the HUD-code program provides to the consumer. To erode either one will greatly impact the industry.

Sincerely,

Mary Gaiski, PHC
Executive Vice President

Cc: PMHA Board

Village Green North
Manufactured Housing Community
18164 N.E. Hwy 65
Box 11
Cedar, MN 55011

June 24, 2005

75

RE: Docket No. FR-4928-P-01
HUD-2005-0006
RIN 2502-A125
Model Manufactured Home
Installation Standard

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410

To Whom It May Concern:

I am an owner of an older manufactured housing community (175 lease sites) near Minneapolis in Minnesota and I have great and serious concern not only for my community's infrastructure but also for the consumer buying a new manufactured home under your new proposed installation standards. My community was built in the 1970's. Under your new standard a new home being placed into our community would have to be installed on a footing below the frost line of at least 42 inches or on a monolithic slab. Your insulated foundation above the frost line makes no sense as insulated skirting appears to not meet the guideline.

There are several problems concerning your excessive regulations. First, slabs or piers would add I believe $3000 to $5,000 to the cost of placing the home in a community to a customer that quite frankly cannot afford to pay for it, and a bank that will not finance it. Slabs and piers are not cheap. Who ever said the cost of revisions would be $130-$150 in your organization is, putting it mildly, out of touch with reality. It will be several thousand's of dollars. It could be several thousand more to move infrastructure of leasehold community water and sewer and electric lines. One of the reasons a tenant is coming to our rental community and not placing the home on private property with a permanent foundation is that he cannot afford the private lot and wants a close in suburban location. We as owners cannot afford to add this extra expense to the cost of our lot. We could never raise the rent enough to cover the expense in today's rental climate where we have lots we currently cannot fill. Especially if it had to be redone every time a house moved out and another came into the same location. Each Manufacturers installation instructions would be different for placement of the piers. It

is totally unworkable. You are relegating us to become a second class community as we will not be able to allow new homes into our community under your proposed guidelines.

In addition, we were not the original owners of the community and in many instances we have no schematics and no idea where the water lines, sewer lines, electric etc. are situated under many of the homes in our community. To dig frost footing that could interrupt our utilities is impossible and unworkable. There is no way we can move a straight line sewer system if a frost footing had to be placed where the line is to conform to a manufacturer's set up instructions. We cannot put jogs in horizontal sewer pipes or they will clog up.
There are not individual shutoffs for water in our community either. We would have to shut down the water supply for the entire community every time we had to move a water service because of a pier placement. How on god's green earth are we supposed to do that. Legally who will own these footings or this slab? Once it is affixed to the land is it our responsibility and maintenance? Do the Tenants own it? Are we mandated to HAVE to provide these for our tenants? How do we make the homeowner remove them when they leave? Thousands of dollars of security deposit he cannot afford? Each home placement would be different if it were a single or double width home. Every time a home was moved from a lot the piers or slab would have to be torn out to accommodate a new home with new piers or slabs put in for thousands more in unneeded cost. How are we supposed to put below frost piers or slabs in the middle of winter if a home needs to come into the community during the winter or are we not allowed to do business in the winter?

We have been placing both single and double section mobile homes on above ground concrete block piers in accordance with the Minnesota Building Code regulations and we or our tenants have never had a major problem or major failure of a system since we have owned this community for over thirty years. Your insistence on adding this additional burden for the consumer and community owner is not warranted or well thought out. No matter how well intentioned it may be. I hope you will consider modifying your mandate for existing communities and change it to a suggestion for the best possible placement and not a mandated regulation. Many older communities just cannot comply and stay in business. Unless of course your intention IS to put us small owner's out of business. I can see a footing or slab on a private lot where infrastructure can be accommodated to fit the home that will go on the home site. This home will never be moved again in all likelihood. This is not so in our lease communities and where existing infrastructure is not cost effective to change every time a home changes on that individual lot.

Thank you for your consideration.

Charles Mossefin
Owner
Village Green North
Manufactured Housing Community

darkenwald, inc.
Industrial and Commercial Real Estate

7535 N.E. River Road
Elk River, Minnesota 55330
(763) 441-3700

DARKENWALD'S RIVERBEND COMPANY LLLP

June 23, 2005

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2005 JUL -1 P 3:10
OFFICE OF GENERAL COUNSEL
HUD RULES DOCKET CLERK

Regulations Division
Office of General Counsel Room 10276
Department of Housing and Urban Development
451 Seventh Street SW
Washington, DC 20410-0500

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Re: Docket No. FR-4928-P-01; HUD-2005-2006
RIN Number 2502-A125
Model Manufactured Home Installation Standard

I am the managing partner of Riverbend Mobile Home Park located in Otsego, Minnesota. The Park opened for business in 1972 and contains 199 residential lots. I have some concerns regarding this new proposal.

The manufactured homes have always been set above the frost line according to the requirements of the State of Minnesota and in compliance with the manufacturers' manuals. In over 30 years, we have never had any problems with frost.

I believe that the proposed Model Minimum Standard by HUD is not necessary and would have a significant impact on the future of my community. Due to the age of the Park, the older homes are being replaced with new homes frequently and this trend should continue.

Most of the consumers have chosen manufactured housing as a means to obtain homeownership at a lower cost. Most of our consumers would not be able to bear the $ 5,000 to $ 7,000 for a footing or monolithic slab, therefore, reducing our consumer base and increasing our vacancies.

As a community owner, the expense of footings or slabs would be outrageous. Not only would I incur the expense at the time of set up but then again when a home is removed since the footing or slab would be designed for each home individually.

I strongly oppose the proposed HUD Model Minimum Standard. Please consider "the what and who" this proposed HUD Model Minimum Standard would benefit.

Sincerely,
Darkenwald's Riverbend Co. LLLP

John Darkenwald

June 22, 2005

Paul Connelly
25 Riverview Heights
Sioux Falls, SD 57105

77

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2005 JUL -1 P 3:09
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HUD RULES DOCKET CLERK

Regulation Division
Office of General Counsel
Room 10276
Dept of Housing and Urban Development
451 Seventh St, S.W.
Washington, DC 20410

Dear Sir,

Re: Docket # FR 4928-P-01
HUD 2005- 0006
Rin 2502- A125
Model Manufactured Home Installation Standard

Your proposed Federal Model Installation Standard is crucial to the future of the manufactured housing industry.

The introduction of frost free foundation system to manufactured home communities will be a burden on the communities and the home owners. This rule changed will make these homes less affordable. This change is contrary to manufactured housing act of 2000 to facilitate the availability of affordable manufactured homes and to increase home ownership for all Americans. Your proposal rule change will not allow factory/ builders to take advantage of new construction technologies and design innovations in a timely manner to more cost effectively meet the required outcomes of the code.

Manufactured homes are meeting an important need of affordable housing. Your proposed change will destroy this industry and affect the lives of millions of Americans in the future.

Sincerely,

Paul J Connelly

Paul J Connelly
President
Woodland Community
Forest Lake, MN
Sunny Acres Community
Burnsville, MN

DHCD
Maryland Department of Housing
and Community Development

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June 27, 2005

Office of General Counsel
Room 10276
Department of Housing and Urban Development
451, Seventh Street, SW
Washington D.C. 20410-0500

Re: Model Manufactured Home Installation Standards; Proposed Rule-Comments

Dear Sir/Madam:

In reference to the proposed rule 24 CFR Parts 3280 and 3285 Model Manufactured Home Installation Standards (MHIS), following are our comments (in bold and italics) in addition to those submitted in our letter dated June 23, 2005.

(1) General:

(a) ***The material in the proposed rule is complex and excessive to review and comment within the time frame.***

(b) ***There is no mention in the rules concerning enforcement or penalties associated with non-compliance.***

(c) ***For a State to decide on what program to implement, a State program or HUD program, how much will HUD charge for installation approval and inspection? How can a State decide which is best for the consumer? How timely will HUD inspection be?***

(2) Page 21499 second column

Reference is made to an upcoming separate rulemaking by HUD dealing with establishment of an installation program and associated inspections. How can one comment on the proposed rule in question without seeing these other regulations that are forthcoming?

MARYLAND CODES ADMINISTRATION
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(3) Page 21500 first column

It is noted again that States choosing to operate a program will be addressed in a subsequent proposed rulemaking. This complicates things and makes it much more difficult for a State to comment on these proposed rules. The rules associated with their implementation by a State are not available.

(4) Page 21500 first column

It is stated that HUD will regulate and enforce installations. Will this action be such that States with programs may discontinue their programs to save funding and in so doing leave enforcement up to HUD?

(5) Page 21500 third column

Seismic loads are considered for site-built and modular homes and manufactured housing installations should be no different, especially when they can be elevated 6 feet or higher above grade. Are the MHIS design loads different from or comparable to the IRC design loads? The MHIS cover site evaluation of soil. Why not just have State and local agencies cover this issue and use the IRC as the referenced backup instead of writing duplicative and possibly conflicting criteria in the MHIS?

(6) Page 21501 third column

Reference is made to a test protocol for support capability of certain foundation systems and then notes one does not exist and asks for suggestions on what it should contain. HUD should include the criteria on alternative foundation designs that can be evaluated on the basis of some existing standard or recognized protocol.

(7) Page 21502 third column

It is mentioned that designs may also be subject to local code requirements. As the rule reads, States can secure acceptance for their rules as meeting or exceeding the MHIS (although it should be explained how that will be administered or processed?) so it would seem that in a State one would end up following either the State provisions or the HUD administered MHIS. This seems confusing.

(8) Page 21503 third column

These are the items clearly under the scope of State and local code. It would seem that HUD would be preempting such authority by State and local government to address such items.

(9) Page 21505 second column

It is mentioned that under authority that certain aspects of home installation are best retained for the LAHJ. This rule finds very few aspects that are not part of the MHIS and would remain with the LAHJ.

(10) Page 21505 third column

It is noted that joining of sections has not been fully enforced by State or local agencies. In HUD's view, is this a State or local responsibility? If not, then the wording appears to cast inappropriate light on the States and locals for something for which they may not be responsible.

(11) Page 21507, third column

It seems ironic that HUD is proposing rules for home installation that could preempt State or local rules but at the same time has no permit authority.

(12) Page 21514, second column

It is noted that fuel oil supply tanks and systems installed at the site are not within the scope of HUD's authority. What makes fuel oil different from propane, site installed air conditioning systems, etc.?

(13) Page 21516, first column

Certainly the collection of installation instructions will have practical utility, but HUD's estimate of level of effort to collect and assess the information is likely low. HUD also asks if the proposed rule imposes a mandate on State or local government. The proposed rule does not address the regulations establishing an installation program so it is really impossible to determine if this rule, as part of a larger program, imposes any mandates on State or local government.

(14) Page 21516, second column

It is stated that the rule does not impose substantial direct compliance costs on State and local government. Without the proposed rule covering the installation program, it is difficult to see how such a statement can be made in establishing a MHIS that States must meet or exceed. It will impose an additional burden on States by having to do comparative studies of their rules and the MHIS and then engage in communication and deliberation with HUD on the acceptability. This is not something the States have to do now; and as such, having to deal with this issue is an additional burden that will take time and resources.

(15) Page 21517, first column

As the MHIS criteria are tied directly to these regulations, it is impossible to provide complete and meaningful comment on the MHIS rule without being able to concurrently review and comment on the other regulations.

(16) Section 3285.1

Without knowing if a State program that exists now is acceptable or not, how can a State know if it is an "applicable State" and in that context develop meaningful comment on the proposed rule?

(17) Section 3285.1 (a) (1)

According to this section, States that choose to do their own program must implement standards that meet or exceed the MHIS. This appears to be preemptive in nature, when previously in the proposed rule notice HUD wrote it was not preempting States and not imposing additional burdens on the States.

(18) Section 3285.1 (b)

For instance, the only thing a locality might impose on homes is conservative provisions in flood hazard areas. As proposed, the MHIS would apply but then that local regulation with respect to flooding would preempt the MHIS related to flooding. Is that correct?

(19) Section 3285.1 (c)

This section refers to States with approved installation programs. How are they approved, on what basis, what is the process, how is approval maintained over time as the State programs evolve on a different schedule than the MHIS rule, etc.?

(20) Section 3285.5

What is reasonable? This is a subjective term and should be deleted or specifically defined. The definition of LAHJ should be revised to read "...that has requirements that must...."

(21) Section 3285.201

This section uses the term "foundation" but that term is not defined. What is the definition of a foundation?

(22) Section 3285.203 (a)

This section should be revised to delete all text after "under the home".

(23) Section 3285.204 (c) (1)

This section should be revised and should also require the overlapping be sealed with adhesives such as in section R406.3.2 of the IRC.

(24) Section 3285.314 (a)

This section essentially states that the State and local government authority to impose requirements for homes on permanent foundations is retained as long as those requirements protect the residents in a way that equals or exceeds the MHIS. A review of 3285.1 (d) indicates that the requirements of part 3285 do not apply to homes installed on site built permanent foundations. Who determines if the State and local requirements for homes on permanent foundations meet or exceed the MHIS? What is the basis of the comparison?

(25) Section 3285.314 (b)

If under 3285.314 (a) the installation is to provide equal protection to that provided by the MHIS then it would seem that a requirement for the engineer to address only anchorage and foundation support. If so, it would not likely meet or exceed the protection provided by the MHIS.

(26) Section 3285.315 (a)

If the intent is to cover home installations via stabilizing devices as defined in the rule, then the rule needs to be clear that the snow loading issue applies to those installations that are not on permanent site built foundations.

(27) Section 3285.401 (a)

This section refers to leveling. It is noted that the issue of "leveling" does not appear to be covered in the rule. The rule should define "leveling" and provide criteria for leveling a home. Without the criteria, the issue of leveling will be subjective and not capable of being uniformly enforced. The rule also requires connection to a permanent foundation, a term not defined and as previously noted not within the scope of the rule.

(28) Section 3285.402

This section does not appear to address the capacity of ground anchors in wet or saturated soil. In areas subject to increased moisture and storms, it is very likely that a significant wind event will occur when the soil is saturated or when there is a flooding condition around the home.

(29) Section 3285.405

This section refers to installations of homes in certain wind zones. Are those wind zones readily comparable to the wind loading provided in State and local codes? How will a comparison of the MHIS and State and local codes be performed with respect to this issue? In Maryland, the wind load criteria in coastal areas need to be revised in accordance with ASCE-7.

(30) Section 3285.406

Scour associated with flooding may affect the forces on the support system and anchors. Flooding, as previously noted, may also change the capacity of the soil and the ability of anchors to resist forces from wind.

(31) Section 3285.503

This section provides that comfort cooling systems that are not provided and installed by the home manufacturer must be installed per the appliance manufacturer installation instructions which may not provide directions for duct connection, support or sealing. This may conflict with other standards and model codes in that provide additional criteria for safety, accessibility for service and performance. It sends a message that the permitting and inspection of such installations is not necessary.

(32) Section 3285.503 (a) (1) (i) (A)

The rule refers to sizing of systems "closely" to the heat gain and then refers to calculation of the sensible heat gain, but not latent heat gain.

(33) Section 3285.503 (1) (iii)

This section applies to installation of "A" coils in an existing furnace. Simply stating that the coil must be compatible and listed for use with the furnace and to follow the air conditioner installation instructions may not be enough to ensure safety and performance. What about the furnace manufacturers instructions, warranties, etc.? As previously noted, if occurring in a State that has been deemed by HUD to provide equivalent or better protection, then this issue should be dealt with pursuant to a local or State code.

(34) Section 3285.503 (2)

This section provides criteria for heat pumps. No sizing? No provisions when installed in conjunction with an existing furnace? No reference to the installation instructions. As noted above for air conditioning equipment, the rule should refer to the minimum standards that would apply to such equipment.

(35) Section 3285.503 (b)

This section applies to fireplace and wood stove chimney and air inlet "add-ons". What about the installation of the wood stove or fireplace itself? Can that be an add-on and should the installation not also be covered as discussed above for cooling equipment add-ons?

(36) Section 3285.504 (a)

How is a skirting material determined to be weather resistant? To ensure intended performance, uniformity and repeatability, some standard should be referenced by which a skirting material can be deemed to be weather resistant.

(37) Section 3285.601

This section refers to field assembly of certain systems. Does HUD intend to refer to manufacturer supplied and shipped loose duct systems? Does HUD recommend the rule be so modified? As presently written, any loose duct is covered by the rule.

(38) Section 3285.606 (a)

This section refers to duct sealants. It should be noted that there are now UL standards 181 A and 181 B to cover duct sealing systems and that what is proposed in the rule could not be considered contemporary guidance with respect to duct sealing.

(39) Section 3285.606 (d)

How are site manufactured metal ducts addressed?
3285.801 (b) refers to sealants. The words "where appropriate" are subjective and unenforceable and should be deleted.

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(40) Section 3285.801 (d)

What is an "exterior sealant" and what standards would be used to label such sealant?

(41) Section 3285.901 (a)

This section indicates that the planning and permitting processes and utility connections are outside of HUD's authority. In the rules, HUD does provide standards for some of these items (e.g. utility connections, conformity assessment issues relevant to permitting and approval, etc.

(42) Section 3285.905 (d)

Note that again the rules refer to the LAHJ.

If you have any questions, please do not hesitate to call us.

Sincerely,

Ujjval K. Dave

for James C. Hanna
Director, Maryland Codes Administration

Mike
Ives Realty

79

973 NE 4th Street
Grand Rapids, MN 55744
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June 23, 2005

RE: Docket no. FR-4928-P-01
HUD- 2005-006
RIN 2502-A125
Model Manufactured Home Installation Standard

Regulations Division
Office of General Counsel, Room 10276
Department of Housing and Urban Development
451 - 7th Street SW
Washington, DC 20410

To Whom It May Concern:

We have many serious concerns with the proposed HUD Model Manufactured Home Installation Standard and believe it will be a deterrent to our industry, adding unneeded additional costs to our product and hurting our home buyers.

My family has owned manufactured housing land lease communities and has been an active member of the (MMHA) MN Manufactured Housing Association for over 30 years. Our Minnesota Association is strong representing over 400 businesses including manufactured home builders, installers, home sales centers, land lease communities, banks, lenders, developers and suppliers to the manufactured home industry. The Association works hard to promote quality housing that is affordable and available to all Minnesotans. Their mission is to educate our members about our product, state and federal law changes, building code concerns and offers continuing education for BC contractors and RE brokers/agents.

As we know, manufactured homes are the nation's leading provider of non-subsidized affordable work force housing. More people are choosing the manufactured housing advantages and sharing in the "American Dream of Homeownership". We applaud Congress for understanding the need to protect affordable housing for Americans, encourage cost effective construction techniques and ensure that the public interest in and need for affordable housing is duly considered in all determinations relating to the Federal standards and their enforcement.

We are proud to have over 200,000 Minnesota residents living in manufactured housing. In Minnesota, 15 % of all new single family homes sold were manufactured housing. The industry employs over 2,000 workers with an economic impact of approx $500 million on the states economy. About 80% of the 2000 new manufactured homes sold in MN last year were affixed to real property and financed with conforming mortgages. The remaining 20 % of the new manufactured homes were placed in land-lease communities.

But in reading your Proposed Manufactured Housing Installation Standard, one would think that you have forgotten about our home buyer and their need for affordable housing. These are the concerns we see with this proposed installation standard:

1. Frost Free Foundations:
Home Manufacturers already have installation standards based upon their home design and requirements of the Manufactured Home Construction and Safety Standards (Part 3280). Permanent foundation requirements should be specific to the installation site using approved state based installation programs which confers with local governing building codes. "When a permanent foundation system is contemplated the design would need to follow accepted engineering practice be designed by the manufacturer or professional engineer and in conformance with local governing building codes." There is no compelling reason to change our current installation path.

We should not be creating a stringent minimum rule which forces permanent foundations in either concrete piers below frost line or engineered concrete floating slabs in land-lease communities in MN. Piers or 5' ground anchors are often unable to be installed due to soil, rock and underground utilities of water, gas and electric. Anchoring being so expensive due to zinc coating requirements, which is even a more stringent requirement than site built anchoring. Floating slabs are expensive for the home owner, often running $4,000-$6,500 for a 1500 square foot manufactured home in addition to installation set-up costs. This would be a burden to more than 1,200 MN land lease communities and affecting over 50,000 home sites in our state. This would also require legal wordings in our lease agreements to be modified to determine who is the responsible party for the permanent concrete slab structure which is constructed on leased land upon utility failure and/or move out of the home.

The requirement of slabs or piers forces land-lease communities to be unable to conduct business during the winter months. We would have to "shut down" and not allow any new homes to come into the community. This is not a business friendly requirement.

2. Site Preparation
It would be an added cost burden to our home buyers to have the requirement of professional engineering or architect services for site preparation if the manufacturer's manual does not cover this topic. This site preparation is also covered in MN Chapter 1350 Manufactured Home Installation Rules. Installers already must determine soil bearing capacity and classification that relates to selecting the appropriate footing, pier configurations and ground anchoring spacing.

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3. Applicability

The proposed rule should be determined only for NEW HOMES. We do not want MN State Building Codes to jump in and say, "This applies to reinstallations on every home throughout our state." It would be unreasonable to force a homeowner of a $5,000 home to place a $5,000 slab down to reinstall his home. This would devalue the home product, cause abandonment, undesirability of our product and be an undue hardship for our manufactured home owners.

We certainly believe there is a desire to formulate a workable Model Manufactured Home Installation Standard that can serve our industry in Minnesota and other "like-climate" areas. We understand this could bring more uniformity to installation standards and a higher level of consumer satisfaction but, we must make sure that the FINAL RULE reflects the manufacturer's construction and installation standards for the home design and our homeowner's wishes. We need to continue to encourage home cost savings, affordability, maintain home value and not enforce unneeded costs on our home buyer. Let's continue to be the offer the American Dream...affordable housing!

Sincerely,

Michelle Rossi

Michelle Rossi
Mike Ives Realty

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Document Detail: HUD-2005-0006-0028

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Document Detail: HUD-2005-0006-0028

Agency Docket Number:

Agency Document Number:

Document ID: HUD-2005-0006-0028

Docket ID: HUD-2005-0006

Title: Comment submitted by Stuart Doggett, Montana Manufactured Housing and RV Association (MMHRV)

Description:

Type: Public Comment

Phase: Proposed Rule

Company/Group/Association Name: Montana Manufactured Housing and RV Association (MMHRV)

Author Date (mm/dd/yyyy): 06-25-2005

Effective Date:

Comment: June 24, 2005 Regulations Division Office of General Counsel Room 10276 Department of Housing and Urban Development 451 7th Street, S.W. Washington, D.C. 20410-0500 RE: Montana comments on the Model Manufactured Home Installation Standards Docket No. RF-4928-P-01, HUD 2005-2006, RIN 2502-A-125, Dear Office of General Counsel: This letter is submitted on behalf of the Montana Manufactured Housing and RV Association (MMH&RV). Our association is a statewide trade association that represents the manufactured housing and RV industries in Montana. Presently Montana is considered a ?default state? without a statewide installation and/or licensing law on the books. As a result we understand HUD will come into our state to develop and impose a program using the Model Installation Standard. Included in this letter are several comments we would like to submit regarding the draft installation standards model. * The model installation standards rules must be the only federal installation standards recognized by HUD. Currently, HUD?s FHA Title II program references the Permanent Installation Guide for Manufactured Housing. We recommend that any references by HUD in any housing program use only the Model Installation Standard adopted under 3285 or its state equivalent and we do not support language in the draft model that would allow localities in default states to adopt their own installation standards. Specifically we recommend that Section 3284(a)(2) be modified to state: In states that do not choose to operate their own installation program for

80

manufactured homes, these Model Installation Standards serve as the preemptive standards for manufactured home installations. Additionally, Section 3285(c) (2) should be revised to state: ?In states without an approved installation program, the Secretary will implement and enforce these Model Installation Standards as preemptive standards?. - 1- * Frost Protection language in the draft

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MMH&RV ASSOC. MONTANA MANUFACTURED HOUSING & RECREATIONAL VEHICLE ASSOCIATION

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June 24, 2005

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 7th Street, S.W.
Washington, D.C. 20410-0500

RE: Montana comments on the Model Manufactured Home Installation Standards Docket No. RF-4928-P-01, HUD 2005-2006, RIN 2502-A-125,

Dear Office of General Counsel:

This letter is submitted on behalf of the Montana Manufactured Housing and RV Association (MMH&RV). Our association is a statewide trade association that represents the manufactured housing and RV industries in Montana.

Presently Montana is considered a "default state" without a statewide installation and/or licensing law on the books. As a result we understand HUD will come into our state to develop and impose a program using the Model Installation Standard. Included in this letter are several comments we would like to submit regarding the draft installation standards model.

* The model installation standards rules must be the only federal installation standards recognized by HUD. Currently, HUD's FHA Title II program references the Permanent Installation Guide for Manufactured Housing. We recommend that any references by HUD in any housing program use only the Model Installation Standard adopted under 3285 or its state equivalent and we do not support language in the draft model that would allow localities in default states to adopt their own installation standards.

Specifically we recommend that Section 3284(a)(2) be modified to state: In states that do not choose to operate their own installation program for manufactured homes, these Model Installation Standards serve as the preemptive standards for manufactured home installations. Additionally, Section 3285(c)(2) should be revised to state: "In states without an approved installation program, the Secretary will implement and enforce these Model Installation Standards as preemptive standards".

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* Frost Protection language in the draft rules is very limiting and inconsistent with good installation practices used in northern states like Montana. Our members report very good long term experience with concrete runners under a properly skirted home. A study by Progressive Engineering performed in Wisconsin illustrated that frost penetration under a skirted home diminished significantly from the raw ground surrounding the home thus mitigating the need to dig piers or other supports down to the depth shown on frost line maps. MMH&RV requests that the federal installation rules provide maximum flexibility in allowing frost protection methods shown to provide equivalent protection of below the frost line piers.

* The Model Installation Standard need not and should not be codified separately from the other Manufactured Home Construction and Safety Standards to maintain our preemptive status. Installation standards are synonymous with construction and safety standards. The installation standards should become a part of 3280.

* Modify Section 3285.1(a) (3): to state, "Approved manufacturer's installation instructions that meet approved state installation standards where appropriate, or these standards must be followed for manufactured home installation."

* Modify Section 3285.202(a) to state; "Soil tests, including but not limited to the use of a penetrometer, that are in accordance with generally accepted engineering practice" or after soil tests: delete rest of sentence and insert MHCC recommendation "a pocket penetrometer or method acceptable to the Secretary shall be permitted to be used." We are concerned with language in the draft rules that requires professional engineers or architects to do much as the proposed installation standards. Clearly this would drives up the cost of the installation significantly.

* Montana opposes mandating the use of a vapor retarder. Provided a site is prepared properly to prevent water from flowing under the home there would not be a moisture issue. As a result a vapor retarder can cause more harm than good.

* Modify 3285.402(b) (2) requiring that homes located in Wind Zone 2 and 3 have "longitudinal ground anchors installed on the ends of the...transportable sections. It stipulates that, "A registered professional engineer or registered architect must design alternative longitudinal anchoring methods in accordance with acceptable engineering practice." This suggestion is too restrictive and should be modified to permit other bracing systems unless there is data indicating they are insufficient.

* Modify 3285.603(e) and 3285.604(d) regarding utility hook-ups. These draft rules do not take into account regional differences in installation procedures. Montana is similar to other states in that the utilities are usually not available when the home is installed. The present draft rules makes the installer a general contractor with responsibility that may conflict with state electric, plumbing, and gas laws. A change in the rules should be made to recognize state approved procedures for testing the systems, ie. gas, water, electrical, drainage as permissible. An installer should not be held responsible unless the installer was qualified to connect a particular system under applicable state law. Ultimately, the manufacturer has to be responsible for any defects introduced in the manufacturing process and the retailer needs to inspect the home after all utilities are connected. The retailer should verify that utilities were connected under approved state procedures.

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In conclusion, the Montana association thanks you for the opportunity to provide these comments on the draft installation standards rules. We ask that you consider the recommendations made by us and other industry experts. Our mutual goal must be to keep the manufactured industry an affordable and fairly regulated housing option for consumers across Montana and the United States.

Sincerely,

Stuart Doggett

Stuart Doggett
Executive Director
MMH&RV

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Document Detail: HUD-2005-0006-0025

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Document Detail: HUD-2005-0006-0025

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Agency Docket Number:

Agency Document Number:

Document ID: HUD-2005-0006-0025

Docket ID: HUD-2005-0006

Title: Comment submitted by William E. Pennington, Jr., Fortney Homes, Inc. and Manufactured Housing Institute of Maryland (MHI)

Description:

Type: Public Comment

Phase: Proposed Rule

Company/Group/Association Name: Fortney Homes, Inc. and Manufactured Housing Institute of Maryland (MHI)

Author Date (mm/dd/yyyy): 06-24-2005

Effective Date:

Comment: My business Fortney Homes, Inc. was founded in 1947. For 58 years we have been selling and installing manufactrued homes. We have never had a dialof with a manufacturer about how they build the homes or how difficult it is to install the houses. Most manufactured home plants have no one on site who have experoence in the installation of the homes. Training and support doesn't exist. The manufactures most important goal is to get houses out the factory door and get paid infull by their retailers. The whole installation story has been misrepresented and in some cases flat out lies by the manufacturer. I have said for years at MHI meetings that we the industry could solve the service installation problem ourselves. If the manufacturers would properly screen, train and support their installers most of the problem would be corrected. I have just called two manufacturers and asked them for help in building the foundation system for one of their homes. I could only get generic forms, nothing specific to the houses I was asking about. If the manufacturers are permited by HUD to distance themselves from the installation of the homes they design and but the installation responsibility on some installer with a lunch box and a pick-up truck is a joke. m No consumer in the U.S. will be bettrer off. The manufacturer who builds the house must be held responsible for the installation and service of that house. They built it they must stand behind it totally. If they have retailers that install houses differently than directed STOP SELLING THEM HOUSES.

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Manufactures should inspect houses in the field when they are doing normal service work. If something has been done wrong asked the retailer to correct the problem. If not done the manufacturer should fix the problem themselves. If this happened house would be built better and the installation done in the field would be made easier. manufactuers have the deep pockets and they should not be left off the hook.

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Document Detail: HUD-2005-0006-0024

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Agency Docket Number:	
Agency Document Number:	
Document ID:	HUD-2005-0006-0024
Docket ID:	HUD-2005-0006
Title:	Comment submitted by Nelson Steiner, President, Florida Manufactured Housing Association (FMHA)
Description:	Please see the attached document for the remainder of this comment.
Type:	Public Comment
Phase:	Proposed Rule
Company/Group/Association Name:	Florida Manufactured Housing Association (FMHA)
Author Date (mm/dd/yyyy):	06-24-2005
Effective Date:	
Comment:	
Page Count:	3
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June 24, 2005

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street SW
Washington, D.C. 20410-0500

RE: Docket No. FR-4928-P-01; HUD-2005-2006
RIN Number 2502-AI25
Model Manufactured Home Installation Standards

Introduction

The Florida Manufactured Housing Association, now in its 54th year of incorporation, represents just over 1,000 member firms involved in the manufactured housing industry in the State of Florida. This membership includes home manufacturers, retailers, manufactured home community owners, developers, installers, service and supply firms, and those providing insurance and financial services.

General Comments

FMHA worked very closely with the Florida Bureau of Mobile Home and RV Construction, at the Department of Highway Safety and Motor Vehicles, (Florida's State Administrative Agency) to develop our statewide installation standard and the requirement for installer education, bonding, and licensing, all of which took effect in 1999 and are often cited as the most stringent and effective in the country. Florida, therefore, is a "non-default" state. However, based on our proactive experience working with state officials to develop Florida's current installation program, we do have some concerns with the proposed rule. Our concerns are as follows:

(1) Whether the Manufactured Housing Consensus Committee (MHCC) is being removed from further input and oversight of the federal model installation standard. This would appear to be what will happen if the proposed standard is codified at 24 CFR 3285 rather than 24 CFR 3280. Congress specifically gave the MHCC the assignment of developing the standard (which it clearly has done) and surely must have expected that the MHCC would be involved with its adoption and the ongoing maintenance and modernization over the years. In this regard, FMHA also believes that there is no need to differentiate in the overall federal program between construction/assembly/safety matters and installation. They complement one another and in order to ensure a true comprehensive approach to the construction and installation of manufactured homes, both must continue to have the oversight by the MHCC, an obvious goal of Congress in passing the Manufactured Housing Improvement Act of 2000 (MHIA).

(2) The impact of HUD enforcement in non-default states such as Florida. The goal in Florida by not only the industry, but also the Florida DHSMV, always has been one statewide standard on all aspects of manufactured home construction and installation to avoid the hodge-podge of requirements by local jurisdictions that posed such enormous problems for manufacturers,

(3) retailers, installers, and community developers prior to implementation of the national HUD standards in 1976.

Under the MHIA, states have had five years to put into place their own installation programs through state legislation. It was presumed by those drafting the Act that states failing to do so would give up this right, become a default state and would need to be governed by a national model standard adopted by HUD. However, it now appears that HUD intends to allow states and local jurisdictions to establish even more stringent installation requirements than the model standard, so long as they meet or exceed that national standard.

FMHA strenuously objects to such a possibility, and would expect that HUD's installation standard for default states should be preemptive in the same way that design, construction and safety standards for these homes are under 24 CFR 3280. Neither state nor local jurisdictions should be allowed to "pick and choose" installation requirements and restrictions in ways that would ultimately impact negatively on both the selling price and siting options for manufactured homes. Our longstanding experience instinctively tells us that given an opportunity, local governments will gladly impose their own installation requirements in a manner to dramatically increase costs as a back-door method to "zone-out" our homes.

(4) Mortaring of Piers – The sections requiring pier configurations exceeding 36 inches in height to be mortared unless otherwise specified in the manufacturer's specification differ from what was proposed by the MHCC. The MHCC stated that mortar should not be required for double-stacked piers unless required by the manufacturer. FMHA suggests that the model standard as now drafted could be interpreted to require unnecessary mortaring of all configurations of stacked blocks.

(5) Footer Placement in Freezing Climates – Frost heave is not an issue in Florida. However, FMHA is concerned that our cold weather neighbors to the north are being negatively impacted by the deletion from the proposed standard of certain proposals by the MHCC in regards to insulated foundations and skirting. There is the possibility, it appears, that HUD may be making it a requirement that a home have a slab or other type of unnecessarily expensive foundation (rather than cement block piers and a crawl space) if the owner and/or installer does not want to go to frost depth with pier footings.

The FMHA thanks HUD and the MHCC for their hard work in putting forth such a comprehensive proposal for development of the national model manufactured home installation standard. We hope that the extensive public comments that will likely come from all across the country will be helpful to the Department in putting the rule into final form.

Sincerely yours,

Nelson Steiner, President
Florida Manufactured Home Association
2958 Wellington Circle, North, Suite 100
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(850) 907-9111; Fax: (850) 907-9119
email: info@fmha.org

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Document Detail: APHIS-2005-0013-0002: HUD-2005-0006-0023

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Agency Docket Number:	
Agency Document Number:	
Document ID:	HUD-2005-0006-0023
Docket ID:	HUD-2005-0006
Title:	Comment submitted by K. DeGroat
Description:	Please see the attached document for the remainder of this comment.
Type:	Public Comment
Phase:	Proposed Rule
Company/Group/Association Name:	
Author Date (mm/dd/yyyy):	06-24-2005
Effective Date:	
Comment:	
Page Count:	1
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The proposed rules could feature with more prominence and precision the process for evaluating whether a state manufactured home installation code, "equals or exceeds the protection provided by these Model Installation Standards," as provided in proposed Section 3285.314 (Permanent Foundations). There are often interpretive differences among architects, attorneys, engineers, regulators and others over whether a standard or referenced code is better, equivalent, higher, lower, or preemptive. A more detailed explanation of HUD's review process by which installation code differences can be accommodated and resolved would further the interest of assuring optimal installation methodology for all manufactured homes. This is especially relevant in view of continuing technical innovation in the industry and variations in site geological conditions unique to diverse regions throughout the nation. Accordingly, clarifying the "opt-out" review process referenced in proposed Section 3285.1 (Administration) could make these standards more digestible and workable for all code authorities, the industry and consumers.

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Document Detail: HUD-2005-0006-0022

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Agency Docket Number:	
Agency Document Number:	
Document ID:	HUD-2005-0006-0022
Docket ID:	HUD-2005-0006
Title:	Comment submitted by Jim Ranfone, American Gas Association (AGA)
Description:	
Type:	Public Comment
Phase:	Proposed Rule
Company/Group/Association Name:	American Gas Association (AGA)
Author Date (mm/dd/yyyy):	06-24-2005
Effective Date:	
Comment:	This Section refers to a Section 3280.705 that doesn't appear to be in the proposal.
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Document Detail: HUD-2005-0006-0015

Agency Docket Number:
Agency Document Number:
Document ID: HUD-2005-0006-0015
Docket ID: HUD-2005-0006
Title: Comment submitted by American Gas Association
Description:
Type: Public Comment
Phase: Proposed Rule
Company/Group/Association Name: American Gas Association
Author Date (mm/dd/yyyy): 06-23-2005
Effective Date:
Comment: Section 3285.503 (pages 21545 and 46) has a section called "Optional Appliances". Under that section, part "C" is titled "Appliance Venting". This section requires all heat producing appliances to be exhausted to the outside. This provision is confusing since it would require all heat producing appliances "exhausted" to the outside. A literal interpretation of that provision could apply to any heat producing appliance such as a cooking range. If the intent of his provision is to require exhusting of clothes dryers to the outside, it should state that. As proposed the provision is confusing since vented gas appliances are required to be vented to the outside, not exhausted. Domestic cooking ranges are not required to be exhausted in the current HUD MHSS and there is no reason to require it in this standard. Finally, this entire provision appears to be out of place in the section that it is located. It appears to be a subpart of Section (3) Evaporative coolers which does not seem appropriate.
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Agency Docket Number:
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Document ID: HUD-2005-0006-0021
Docket ID: HUD-2005-0006
Title: Comment submitted by K. Kammerer
Description:
Type: Public Comment
Phase: Proposed Rule
Company/Group/Association Name:
Author Date (mm/dd/yyyy): 06-24-2005
Effective Date:
Comment: I do not believe the requirement to require a professional engineer if the manufacture manual does not address site preperation is in the best intrest of the Manfactured Housing Industry. Building Officials have been determining if the soils are adequate for residential construction for years and I see no reason to single out Manufactured Homes. The use of pocket penetrometers is a usefull tool and should not be eliminated. I use one on every new construction site for footings and found it too be a very helpful tool in determining soil bearing capacity
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Company/Group/Association Name: State Buidling Code Administrative Office (SBCAO), Virginia Department of Housing and Community Development
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HUD-2005-0006-0019	Comment submitted by Curtis L. McIver, State Building Code Administrator, SAA Administrator, State Buidling Code Administrative Office (SBCAO), Virginia Department of Housing and Community Development	Preceding

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June 22, 2005

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410-0500

Subject: **Docket Number FR-4928-P-01**
HUD-2005-0006
RIN 2502-A125
Model Manufactured Home Installation Standards

Dear Sir or Madam:

The Virginia Department of Housing and Community Development, State Building Code Administrative Office (SBCAO), is submitting comments in response to the proposed Model Installation Standards (Standards) published in the Federal Register, Volume 70, Number 79 on Tuesday, April 26, 2005. The SBCAO is a fully approved State Administrative Agency (SAA) in the HUD manufactured housing program.

The Commonwealth of Virginia has regulated the installation of manufactured homes through the Virginia Uniform Statewide Building Code (USBC) since the mid 1970's. The USBC is a mandatory code enforced without amendments by all local governments in Virginia. The USBC requires that all manufactured homes, both new and used, must be installed according to the manufacturer's instructions. If the manufacturer's instructions are not available, or specific site conditions are such that the manufacturer's instructions cannot be followed, the USBC allows the use of the ANSI A225.1 Standard or engineered installation designs specific to the home and location to be used. The local inspectors generally check the footings, piers and anchoring systems of the homes along with utility connections made during the set up of the homes. They also check for proper design loads/zones and fastening of the sections of multi-section homes after set up. The SAA generally handles complaints regarding close up work after completion of the home on site, sometimes with the assistance of local inspectors.

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As a second general comment, the SBCAO strongly supports the Model Installation Standard remaining as a stand-alone document or standard as CFR 3285. This office opposes the efforts of some individuals or groups to have the Model Installation Standard included as part of the Manufactured Home Construction and Safety Standards (CFR 3280). The MHIA of 2000 clearly stated that the manufacturers or states could have more stringent standards than HUD's Model Installation Standard, meaning that the HUD Model Installation Standards are not preemptive standards. Therefore, such non-preemptive standards should not be included or merged with the preemptive standards in CFR 3280. The Model Installation Standard must remain as a stand-alone document that may be amended by any manufacturer for its use or amended and adopted by any state, or local government in the absence of a state program, for the state or local government's installation program.

The following comments are referenced to the specific section of the proposed standard and may also address questions asked by HUD in the summary of the standards:

- In section 3285.4, ASHRAE is the American Society of Heating **Refrigerating** (not Refrigeration) and Air Conditioning Engineers.
- In section 3285.5, Definitions, the definition of *crossovers* should be amended to include **heating and cooling ducting**, not just heat ducting.
- In section 3285.306(a) the horizontal offset from top to bottom is limited to one-half inch on piers less than 36 inches in height. No limit is stated in 3285.306(b) for piers over 36 inches in height. The Standards should address offsets in piers over 36 inches in height as well and should address the maximum tilt of piers from vertical for piers of any height.
- Figure A to §3285.306 shows 2" x 8" x 16" steel or hardwood caps. The steel caps should probably be one-half inch thick, not two inches thick.
- In section 3285.306(b) and in Figure B to §3285.306 the Standards state, "Mortar is required unless specified otherwise." This would indicate that dry stacked block piers would no longer be accepted unless the manufacturer allowed them in its installation instructions. To do so, it appears that the manufacturer would be required by §3285.1(a)(3) to prove that the dry stacked block piers would provide protection that equals or exceeds the protection provided by the Model Standards. Would this section also mean that the manufacturer would have to verify the equivalency of dry stacked block piers with surface bonding?
- In section 3285.312(b)(1) the word **must** should be deleted from the first line so that it reads, "Footings are permitted...." In the same section, the word **and** between item number (i) and item number (ii) should be changed to **or**. The section allows concrete footings to be either precast or poured-in-place, not both.
- Section 3285.314 addresses "permanent foundations." There is no definition of permanent foundation in the Standards. Without such a definition, how does one determine whether the proposed foundation is a permanent foundation or not and whether such proposed permanent foundation is adequate? Retailers and state and local code officials have encountered problems for years in determining what was or was not a permanent foundation. HUD's "Permanent Foundation Guideline"

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that was developed outside of the Manufactured Housing Division has added to this problem. Now that HUD is proposing Model Installation Standards, the Standards should include a clear definition of what constitutes a permanent foundation and the requirements for such a foundation that can serve as the model for states, manufacturers, local governments and financial institutions.

- In section 3285.402(b)(3)(ii) the word **be** should be inserted on line 5 of the section to read "....plates must **be** zinc-coated...."
- Section 3285.404 requires that ground anchor augers be installed below the frost line in frost-susceptible soil locations. Some auger manufacturers indicate the auger must not be used below the water table. If the water table in the area is above the frost depth, how will the installer address the frost depth requirement and the water table issue?
- Section 3285.406 should be reworded to read, "In flood hazard areas, the piers, anchoring, and support systems must be capable of resisting **all combined** loads associated with design flood and wind events." This is particularly important in geographic areas susceptible to hurricanes where the homes will be subjected to high winds and saturated soil simultaneously. The scouring effects of both wind and water forces also needs to be addressed, in particular for the anchoring and support system components.
- Section 3285.503(a) should also include a reference to the LAHJ and local or state code requirements. The appliance manufacturer's instructions may not address all requirements that would be included in local or state codes enforced by the LAHJ.
- Section 3285.503(a)(1)(i) states that site-installed air conditioning equipment must be "sized **to closely match** the home's heat gain...." What does **closely match** mean? Does the equipment have to be the next largest size unit over the home's calculated heat gain? Can you install a unit of <u>less</u> size than the home's calculated heat gain because that unit is more **closely matched** to the calculated heat gain that the next largest unit that is <u>over</u> the calculated heat gain?
- Section 3285.505(d) states that ventilation openings must be covered with "a perforated metal covering." What about the use of perforated vinyl skirting for vents or screen used over vent openings? This provision needs to be amended to include other acceptable materials.
- Section 3285.603 refers to "normal occupancy" in two places. Exactly what is "normal occupancy" and what would constitute "abnormal occupancy" when the section would not apply?
- Section 3285.802(c) states, "Gaps between the structural elements ... along the mate-line of multi-section homes must not exceed 1 ½ inches and must be shimmed with dimensional lumber." Does this mean that <u>any</u> gap between the sections must be shimmed, no matter how small, and that <u>no gap</u> whether it's shimmed or not could exceed 1 ½ inches? Or, does this section mean that only gaps exceeding 1 ½ inches have to be shimmed? This section needs to be clear.
- The Figure to §3285.803 (on page 21555 of the Federal Register) states, "One full-sized panel no less than 16 inches nor larger than 32 inches" over the center of a double section home. If typical panel are 48 inches in width, how do you have a "full size" panel over 16" but less than 32" in width?

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- The figure on page 21556 of the Federal Register is not titled, other than "Center of double-section home," nor does it refer to a section of the Model Installation Standards. The figure is placed after the Figure to §3285.803, which addresses interior close up work. The figure on page 21556 appears to address exterior close up work and should be titled and moved to the figures to §3285.801. The figure on page 21556 should probably become Figure B to §3285.801 and the current Figure B be re-designated as Figure C. Also, the bottom of the figure shows a section of panel as "Field applied Plant applied." The words **Plant applied** should be deleted since the section of the panel that covers the center of the double-section home is probably field applied, not plant applied. Under few if any circumstances would the panel be both field applied and plant applied as shown on the current figure.
- Section 3285.901(c) states that the manufacturer's installation instructions must "strongly recommend the following cautions to installers...." without listing any further information in section 3285.901. If the reference to the "following cautions" means the recommendations found or listed in Subpart J, the statement should be moved to paragraph (a) of 3285.901 and be re-worded to refer to all of the cautions contained in Subpart J. There are cautions or recommendations in paragraphs (a) and (b) that are as important as the remaining sections of Subpart J.

The Model Installation Standards do not define or include provisions for the installer of the manufactured home. Hopefully, this omission will be addressed in the Manufactured Home Installation **Program** yet to be published or to be published "shortly" by HUD. If not, the Standards may need to be re-visited to include more requirements for installers.

Staff in the Virginia State Building Code Administrative Office, as the SAA in Virginia, would ask consideration of the corrections and recommendations contained in this response to the Federal Register publication. We believe these comments, if considered, will result in an improved Model Installation Standard.

Sincerely,

Curtis L. McIver
State Building Code Administrator
SAA Administrator

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Document Detail: HUD-2005-0006-0016

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Description: Please see the attached document for the remainder of this comment.
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Phase: Proposed Rule
Company/Group/Association Name: Palm Harbor Homes, Inc. (PHH)
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Palm Harbor Homes

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410-0500

June 24, 2005

Via Electronic Submittal

Re: Docket No. FR-4928-P-01; HUD-2005-0006
RIN Number 2502-AI25
Model Manufactured Home Installation Standards

Dear Madam or Sir:

Palm Harbor Homes, Inc. (PHH), respectfully submits the following comments to the proposed rulemaking notice as referenced above and published in the Federal Register of April 26, 2005 (70 FR 21497-21559). Comments pertaining to some of the questions HUD asked in the preamble of the Federal Register Notice are in Part A of this document. Specific comments to the actual proposed installation standards are in Part B of this document, arranged in a table with page number references of the Federal Register document and section references of the proposed standard.

Part A (Comments to the questions posed by HUD in the preamble):

1. *Should the proposed Installation Standards be codified as a new part of title 24 CFR, or be a subpart of the existing Construction and Safety Standards (24 CFR part 3280)?*
   Discussion: HUD's main concern about including the Installation Standards as a subpart of 24 CFR, part 3280, appears to be "preemption". However, the specific requirements of the proposed installation standards of what a State has to comply with in order to "operate" an installation program, acceptable to HUD, already "preempt" the State from not complying with the minimum standards, whether codified as a new part of title 24 CFR, or a subpart of the existing part 3280. Further, the manufacturer is required by parts 3280 and 3282, to provide at least one method of detailed installation instructions, including foundation, anchoring and multi-section interior and exterior close up. In fact, the

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installation standards as proposed make reference to the manufacturer's installation instructions, in numerous sections, for items not specifically covered in the installation instructions.
Recommendation: This manufacturer ***strongly*** suggests the proposed installation standards become a subpart of the existing construction and safety standards. However, a clear distinction between responsibilities for monitoring and consumer complaints related to installation must be addressed in both the upcoming proposed Installation program rule and dispute resolution regulation, as they relate to construction and assembly (manufacturer) and on-site installation (retailer/installer).

2. "*Default States*: Discussion: On page 21500, HUD describes the differences between a State that does operate an installation program that qualifies under the proposed standards, and a State that does not have a qualifying program. It appears that HUD suggests that in either case, the State may establish more stringent requirements, so long as those requirements provide protection that equals or exceeds those provided by the Model Installation Standards.
It appears from that statement that a State can simply choose not to participate in the program, then come back and implement requirements of their own. Since HUD will regulate and enforce installation in default States based on the proposed standards, how will HUD handle any conflicts between the two standards?
Recommendation: **Any State that is considered a "default State", can not establish their own installation standards**, as that would conflict with HUD's responsibility for regulating and enforcing the proposed installation standards in a default State.

3. *Seismic Safety: Should the Model Installation Standards attempt to set forth minimum installation requirements or pre-installation considerations to address seismic safety? If so, how should HUD establish seismic zones?* Discussion: Seismic design criteria are presently not part of the construction standards. Considering that some States have multiple seismic zones (typically based on latest residential building codes), for HUD to establish and maintain seismic zones, is not necessary. Currently, where seismic designs are required, the LAHJ will determine requirements.
Recommendation: HUD should not include any seismic requirements in the Model Installation Standards. When required, designs are handled by either, the retailer, installer, owner or manufacturer, in accordance with the requirements of the local building authority. This is working now and need not be covered in the installation standards.

4. *Vapor retarder requirements: should limitations be placed on the number and size of voids and tears?* Discussion: As the name implies, the intent of the vapor "retarder" is to retard or slow-down the migration of water vapor from areas of high concentration (pressure) to areas of low concentration. The vapor pressure difference will cause water vapor to enter the low pressure area wherever there is a breach in the continuity of the retarder membrane. This includes any overlapping joints, unless they are sealed airtight. In essence, the unsealed joints represent a long tear. Common accepted practice is to install the vapor retarder after the home is placed on its piers. This results typically in at least three sections of sheeting being installed, one each outside the main I-beams, and one between the I-beams. On a 66ft section the two joints would represent 132 LF of tears. The obvious breach at the seams, even with additional tears and voids, is less of a problem than requiring vented crawl spaces in the hot/humid climates of the south, which continuously replenishes moisture laden air in the crawl space.
Recommendation: The wording should remain as is and allow "minor" voids and tears. Based on the discussion, it is virtually impossible to provide 100% coverage anyway. The final determination of what is excessive must therefore be left to the inspector and/or processed through the dispute

resolution program, in extreme cases. Further, it is recommended to clarify that in arid region, only where the LAHJ does not require vapor retarders for other types of residential construction, the retarder may be omitted.

5. *Subpart D – Foundations – HUD Questions*: Discussion: Footer design and pier spacing is a function of floor width, dead loads and live loads. While the live loads are of a prescriptive nature, the dead loads will and can vary for many reasons. Exterior wall dead loads, for instance are effected by wall framing size (2x4 v. 2x6), spacing (16" v. 24"), height (84", 90" 96" 108"), exterior wall covering (vinyl lap, vinyl lap over sheathing, wood siding, cement siding) and interior wall coverings (5/16 to ½" gypsum), or any combination thereof. Roof and floor loads are similarly conditioned by widths, member size and spacing, etc. The foot notes as they exist are too detailed and difficult to establish equivalency.
   Recommendation: Rather than listing dead loads for individual components in both pounds per square foot (psf) and pounds per lineal foot (plf), it is highly recommended to replace *Note 3 in Table 1* of 3285.303 with the following: **"Table based on TBD plf combined dead loads of chassis, floor wall and roof assembly and 300 lb. Pier dead load"**. *Note 4 in table 2* should read as follows: **"Table based on combined dead load of roof and exterior wall assemblies of TBD plf and combined floor assembly dead and live load of TBD plf (including chassis dead load), and 300 lb. Pier dead load."**
   For anchor spacing tables for wind zone 2 and 3, see comment in Part B, page 7 of 11, item # 18.

Part B: (Detailed analysis of the proposed standards with comments by page and section number).

Item #	Page #	Section/Title/Paragraph	Comment
1	21518	3285.2	Last sentence of this paragraph should read: "Installers must follow the DAPIA-approved manufacturer's installation instructions for those aspects **NOT** covered by these Model Installation Standards.
2	21520	3285.202(a)	A pocket penetrometer has been accepted as an alternate method to determine soil pressures for years and should be included as (3)
3	21523	3285.204(a)	Vapor pressure differences exist anytime, anywhere there is conditioned interior space. The requirement for a ground vapor retarder should apply in all regions.
4		3285.204(c)(2)	Strike "where footings are permitted at grade." and move it to the beginning of the sentence. It reads better and immediately sets the condition.
5		3285.303(d)(1)	Strike "poured". It suggests that footers for pier loads need to be poured.

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Comments to Model Installation Standards, continued:

Item #	Page #	Section/Title/Paragraph	Comment
6	21528	3285.306(b)	Mortar should **NOT** be required for piers greater than 36" or less than 80". This is NOT what the MHCC submitted. The reference to mortar required should be the same as in 306 (a)(5). References in Figure B should be adjusted accordingly.
7	21529	3285.306(c)	The last sentence referencing mortar requirement, should be stricken as the PE or Architect will specify requirements in his/her design..
8	21533	3285.311(a)	This section is too generic. It should list more specific conditions. Exterior doors, not exceeding 36" (nominal) in width, should actually be excluded, as other side wall openings less than 48" do not need support either. A wood stove and or prefab fireplace, unless surrounded by heavy masonry enclosures, certainly should be covered under the 40 PSF design floor load. To be consistent, remove note 4 in Figures A and B. In figure B, Note 5 will change to Note 4.
9	21534	3285.312 (b)(1)	Strike the word "must"
10	21535	3285.312 (b)(3)	ABS footing pad allowance of use should include (add to end of existing paragraph): " **and certified for the soil classification for which they are installed."** Unless specifically tested for sandy soils for instance, ABS or any other plastic type footing pads have a tendency to deflect.
11	21536	3285.312 (c)(3)	When foundation and enclosure are insulated, it is not necessary, nor desired, to vent the crawl space. Why go through the trouble of insulating, and then cut holes through the insulation that allow outdoor air to enter the crawl space.
12	21538	3285.312 (e)	Editorial: heading in last column for 16x16 pier should read: "Unreinforced **cast**-in place

Comments to Model Installation Standards, continued:

Item #	Page #	Section/Title/Paragraph	Comment
13		3285.312 (e)	Maximum footing capacity of 10,800 shown in column 2 for 4000 LB soil and 20x20 footer should have footnote 4
14	21539	3285.401(c)	Current wording seems to suggest that a home MUST be installed to the design loads, even if it is installed in an area with lesser design loads. Suggest changing wording to the following: **(c) All anchoring and foundation systems must be capable of meeting the loads required by part 3280, Subpart D of the FMHCSS, for the area in which the home is located. The home's design must be based on the loads shown on the data plate, or higher.**
15	21539	3285.402 (a)	Change "Ground anchor" to " **Ground anchor assembly**" as all portions of the anchor, anchor head, bolts and nuts, stabilizer plates, etc. must be protected from corrosion.
16	21543	3285.402(b)(3)(ii)	Delete reference to zinc coating for stabilizer plate as it is now covered in 402(a), where it should be. Editorial: installation is in accordance with "**manufacturers**'" installation instructions.

Comments to Model Installation Standards, continued:

Item #	Page #	Section/Title/Paragraph	Comment
17	21544	Table 1	If anchor test protocol as currently being developed by the MHCC Installation Subcommittee will include a 30 degree min angle for testing anchors in the diagonal direction, the column for 82.5 in I-Beam spacing and 18 ft wide sections (204 to 216in) should show "N/A", as well as "N/A" replacing the 25" max height in the first column. Discussions with other manufacturers indicated that 18 wide floor designs usually only work over 99.5" I-beams. 18ft wide units represent the only situation where the 30 degree min angle from horizontal can not be maintained at 25" or less height. Rather than unnecessarily limiting anchor performance, we should require min height for 18ft sections to be 33in or higher. To further clarify the requirements of this table, I suggest adding: **Note13: Minimum diagonal strap angle from horizontal is 30 degrees.** Comment to Note 12 of Table 1: Minimum spacing is NOT a requirement in the current anchor test protocol being developed by the MHCC Installation subcommittee. Suggest adding the following to the end of note 12: ", **or the distance of the anchor shaft length.**"

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Comments to Model Installation Standards, continued:

Item #	Page #	Section/Title/Paragraph	Comment
18	21544 & 45	Tables 2 and 3 and 3285.403	Designs require a vertical tie be installed at each diagonal tie location. It is really the manufacturer that determines diagonal tie spacing, based on various connections between chassis, floors and sidewalls. Few, if any manufacturers do not utilize a sidewall strap or bracket, factory installed. Hence, as required by 3285.403, the installer is required to connect a diagonal tie to each factory installed vertical tie. **For those considerations, Tables 2 and 3 are meaningless and only add to confusion and unnecessary interpretations and should be deleted.** However, in case the Department decides otherwise, similar notations as proposed for Table 1 regarding 18ft wide units should be made to tables 2 and 3.
19	21545	3285.405	Editorial: 2nd sentence, change manufacture's to **manufacturer's**
20		3285.502	Insert " **provided by the home manufacturer or,** " after "..designs" and before "prepared by a …" Expanding rooms when factory supplied and its installation, must be covered in the manufacturer's installation instructions. The paragraph as written suggests only a local PE or Architect can design the installation.
21		3285.503(a)	Editorial: …installed according to the appliance **manufacturer's** installation instructions.

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Comments to Model Installation Standards, continued:

Item #	Page #	Section/Title/Paragraph	Comment
22	21546	3285.503(b)(i)	Editorial: for purposes of consistency, **change (B) to (b)(i).** Also, I think it is important to note that the duct capacity is not to be confused with the home's total heat gain, especially given the fact that the capacity displayed is based on 0.3 static pressure when today's equipment cfm delivery is based on 0.1 static supply duct pressure. This should also be addressed in the respective section of the Standards in 3280.
23	21547	3285.505 (d)	Replace "metal covering" at end of sentence with "**suitable covering**". Covering could consist of fiberglass screening, plastic, or other suitable material.
24		3285.603(d)(3)	Editorial: replace the term "heating cable" with the more common term of "**Heat-Tape**".
25	21548	3285.604(d)	Last sentence should read: "**Testing must be consistent with Chapter 3280.612 of the FMHCSS.**
26	21548	3285.605 (b)(1)	Last sentence should read: **The crossover must be designed in accordance with chapter 3280.705 of the FMHCSS.**
27	21549	3285.606 (a)	Mastic approved to UL 181 should be used in all cases to seal the connection for air leakage. Mastic cannot be used as the only means of connection. Tapes, regardless whether approved or not, should not be allowed, except to aid in the installation of the ductwork for temporary securement.
28		3285.606(e)	Insert after "above the ground": **at maximum 4ft-0in on center (unless otherwise noted),** .... Insert after next to last sentence: "**When straps are used to support flexible duct off ground, they must be at least ½" wider than the metal spiral spacing of the duct, installed such that it cannot not slip between any two spirals.**"

Comments to Model Installation Standards, continued:

Item #	Page #	Section/Title/Paragraph	Comment
29		Figures A & B to 3285.606	Comment: Duct block support should be as narrow as possible to keep compression of insulation to a minimum. The figure suggests that a 16" CMU is acceptable. Also suggest adding a Note: **2. Crossover duct must be listed for exterior use.**
30	21552	702 (c) and (d)	Why are the instructions for the exterior light so much more detailed than the ceiling fan? Wire connection for instance can be more difficult for a fan/light combination than a simple exterior light.
31		3285.702 (e)(1)	Delete this paragraph in its entirety. Change (e)(2) to (e)(1) and change to read as follows: **"702(e)(1) After completion of all site connections of cross-overs, exterior lights, ceiling fans, etc., each manufactured home must be subjected to the following tests, consistent with chapter 3280.810 of the FMHCSS:** There still needs to be some clarification as to who is "ultimately" responsible for testing. Smoke alarms, for instance, cannot be effectively tested until home is connected to electricity, usually sometime later after the initial installation to its foundation.
32	21552	3285.801(a)	Change reference to 3280.305 and 307 to read: **...consistent with chapters 3280.305 and 3280.307 of the FMHCSS"**
33	21553	Figure A to 3285.801	Detail needs to be less specific. For instance, many manufacturers use windows/doors with integral lap receivers. Also, recommend the following changes to the notes: Note 1; change "Double section" to Multi section. Note 2; current wording suggests doors and windows are to be covered with plastic sheeting.

Comments to Model Installation Standards, continued:

Item #	Page #	Section/Title/Paragraph	Comment
34		3285.801(d)	Add to end of sentence: "Sealant, when used on shingles, must be approved for that use."
35		3285.801 (e)	Change to read as follows: "The home manufacturer must provide materials and designs for mate-line gaskets **or** other methods, designed to resist the entry of air, water, **water-vapor**,....." Example: while covering the mate line joint with a "House-wrap" like plastic material would certainly resist the entrance of water in its liquid form, by definition, the house wrap does not prevent water vapor migration.
36	21554	3285.803 (c)	Current wording too prescriptive. Suggest changing 1st sentence to read: " **Unless otherwise specified by the home manufacturer**, all shipped loose interior wall paneling, necessary for the joining...."
37		Figure to 3285.803	Not sure of the intent of restricting the panel width to no less than 16 or no larger than 32in. Exterior end wall framing certainly could be @ 24" o.c. which would require a 48in wide panel. Also, sometimes a 3-5in wide strip is used to close-up between openings, rather than across openings. The same comment applies to both interior and exterior panel applications. Further, both figures should reference "mate lines of Multi section homes", rather than "center of double section homes".
38	21557	3285.903(c)(1)	As a result of recent tornado and hurricane activities, many manufacturers have realized the importance of proper connections of site-installed structures to their homes and offer designs that incorporate the additional roof and wind loads imposed by those site-additions. Suggest revising this section to read as follows: "**Unless approved by the home manufacturers installation instructions,** all buildings, structures,....."

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Comments to Model Installation Standards, continued:

Item #	Page #	Section/Title/Paragraph	Comment
39		3285.905(c)	Current wording too restrictive. Installer may opt to "hard-pipe" connection without the use of an elastomeric coupling device.

I appreciate the opportunity for commenting on this very important proposal. I also appreciate the opportunity to serve on the MHCC installation subcommittee.

Should you need additional information or clarification on any of the issues discussed above, do not hesitate to contact me.

Sincerely,

Bert M. Kessler
Vice President – Engineering
Palm Harbor Homes, Inc.
Corporate

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Title: Comment submitted by Robert E. Solomon, PE, Project Manager, Administering Organization, Manufactured Housing Consensus Committee (MHCC)
Description:
Type: Public Comment
Phase: Proposed Rule
Company/Group/Association Name: Manufactured Housing Consensus Committee (MHCC)
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Manufactured Housing Consensus Committee
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June 23, 2005

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410-0500

Re: Docket No. FR – 4928-P-01
RIN 2502 – A125
Model Manufactured Home Installation Standards

The following comments, shown in the enclosure are submitted on behalf of the Manufactured Housing Consensus Committee (MHCC) and reflect the actions taken by the MHCC during their conference call meeting on 25 May 2005 regarding these proposed rules.

The MHCC asks that the Department consider these comments as you proceed toward final rule adoption.

Sincerely

Robert E. Solomon, PE
Project Manager
Administering Organization

RES:jtm

C: MHCC Members

ENCL: MHCC Comments – 4928-P-01

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6/23/2005

MHCC COMMENTS

1. GENERAL COMMENT: The Installation Standards should be considered as manufactured home construction and safety standards and be included as a subpart of 24 CFR 3280, Manufactured Housing Construction and Safety Standards. The Installation Standards should not be a separate part – (i.e. 3285) and should not be considered separate from the manufactured housing construction and safety standards as contained in the proposed rule..

REASON: The Manufactured Housing Improvement Act of 2000 (MHIA 2000) defines the federal manufactured home construction and safety standard as "a reasonable standard for the construction, design and performance of a manufactured home which meets the needs of the public for quality, durability, and safety."

The proposed installation standards definitely affects the manufactured home's construction performance in meeting the consumers need for safe, quality housing and for home installation on its foundation. A standard that is separate and distinct from Part 3280,could definitely cause safety problems for the home owner.

Additionally, all other housing construction codes include foundations as part of the construction standards for the home. Manufactured housing should treat installing the home on its foundation the same and have the installation standards be considered part of the manufactured home construction and safety standards.

By having the installation standards considered as a continuation of the manufactured home construction and safety standard would eliminate a number of problems that are currently in the proposed rules. Major problems with the proposed rules that would be alleviated include the following:

First and foremost, federal preemption of installation standards would apply in default states and the manufacturer's instructions that comply with these installation standards would be the typical way a home would be installed.

The proposed rule considers installation standards separate and distinct from the Manufactured Housing Construction and Safety Standards-24 CFR Part 3280 and consequently preemption would not apply. The proposed rule as presented would not mandate compliance with Part 3280 and consequently, pre-emption would not apply.

The unintended consequence of this would permit individual jurisdictions in default states to impose additional regulations, over and above those specified in these federal installation standards. This can easily result in multiple levels of quality, design features and safety being provided in multiple jurisdictions (town, city, county) in a default state.

Local jurisdictions could use their regulations to discriminate against Manufactured Housing by imposing standards that could not be met.

Further, it would then be incumbent on HUD to determine how to monitor these individual levels of performance. Realistically, human resource limitations and financial resource limitations imposed on HUD simply would not allow these multiple levels of performance to be adequately scrutinized and enforced by the HUD Program Staff.

Second, by having installation standards considered as a continuation of the manufactured home construction and safety standards, the full enforcement and administrative authority under the MHIA of 2000 that is contained through out the MHIA of 2000 would apply to installation standards.

And Third, the MHIA of 2000 requires the manufacturer in Section 605 (a) to provide design and instructions for installing the manufactured home that have been approved by a design approval agency that has determined the manufacturer's design and instructions provide equal or greater protection than the protections provided under the installation standards. Preemption would then allow the manufacturers installation instructions to be utilized and not subject to rejection by local jurisdictions as suggested in the proposed rule.

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2. P. 21499 SUMMARY - PART 3285 MODEL MANUFACTURED HOME INSTALLATION STANDARDS SUBPART B - PRE-INSTALLATION CONSIDERATIONS (third column) The Department has posed a question in this section concerning "close up" as follows: *"Since close-up consists of the work and activities for completing the assembly of the home, is it consistent with the rest of the Act to consider such work as construction and therefore the responsibility of the manufacturer? Or is it too difficult for manufacturers to control and monitor the close-up done by installers so that it would be more appropriate to classify close-up as part of installation? Will consumers be adequately protected if close-up is classified as part of installation?*

COMMENTS: The concept of "close-up" for multi-wide manufactured homes needs to be considered as a part of the installation standards as a subpart under the construction standards covering the process of installing the home on its foundation, rather than the portion of the construction standards that cover production and assembly of the home in the factory. A clear delineation needs to be maintained between the manufacturing process and the installation process covering work activities facilitating the placement of the home for use and occupancy by the consumer. It is unreasonable to expect and/or hold the manufacturer totally responsible for the close-up work that will be performed by another entity that is not under the control of or have a contractual relationship with the manufacturer. The exception would be for those circumstances where the manufacturer authorizes or licenses an agent to serve in that role on behalf of the manufacturer to complete work that normally would have been done in the factory except for the real possibility of transportation damage to the home when it travels to the building lot. In other cases, it does not seem practicable to hold the manufacturer responsible – either in a

control or monitoring role for what happens during the installation of the home unless a formal arrangement has been made to do so. The installer should carry the burden to be held accountable for the work the installer performs thus it is appropriate for the installation standards to address the close-up issues.

The MHCC is reiterating its position that such an installation rule still needs to be a subpart of 24 CFR 3280, but that the close-up responsibilities must remain with the installer.

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3. P. 21518 Subpart A General. 3285.1 Administration. The MHCC recommends that the following concepts be added back into the proposed rule as follow:

> "The manufacturer's installation instructions shall apply under any of the following conditions where they do not take the home out of compliance with the federal Manufactured Housing Construction and Safety Standards:
> (1) To items not covered by this standard;
> (2) Where the manufacturer's approved installation instructions provide a specific method of performing a specific operation or assembly;
> (3) Where the manufacturers approved installation instructions exceed this standard."

REASON: This concept is embedded in Section 605(a) of the MHIA of 2000 that states in part: *"A manufacturer shall provide with each manufactured home, design and instructions for the installation of the manufactured home that have been approved by a design approval primary inspection agency...a design approval agency may not give such approval unless a design and instructions provides equal or greater protection than the protection provided under such model standards."* As currently proposed by the Department, it would appear that an installer could have their hands tied if any of the three conditions noted above are present and that local jurisdictions could reject the manufacturer's design and installation instructions in the default states and substitute their own requirements.

The draft installation standard submitted to the Department on 18 December 2003 contained such scoping language. (See MHCC Draft Standard at § 1.1, Scope) The MHCC wanted to address issues such as home specific or installation specific procedures or circumstances that would necessitate some level of over-ride or exception to the model installation standards. Such departures from the proposed standard could only be applied if one or more of the limited conditions were present.

While the proposed installation standard is very comprehensive it is also performance based and the manufacturer needs to have the flexibility to cover field installation circumstances that were not contemplated by the standard or may require specific designs and instructions providing the same or greater level of performance as that contemplated

in the installation standards. As required by the law, a DAPIA approved set of design and installation instructions must still be filed and made available. Without the above language, the installer could potentially just follow the criteria of the installation standards (the minimum) even if the manufacturer had specified a different method. That is not the intent of the MHCC nor does the MHCC believe it was the intent of the law to provide an avenue that can lead to a conflict with approved methods of installation. Likewise, if the manufacturer has a proprietary method for completing the on site installation, the language of the installation standard may preclude that approach from being used as well.

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4.	**P. 21523**	**3285.301 (d) (2).**
	P. 21523	**3285.301(d)(2)**
	P. 21529	**3285.306 (c)**
	P. 21533	**3285.310 (c)**
	P. 21536	**3285.312(c)(1)**
	P. 21536	**3285.312(c)(2)**
	P. 21538	**3285.314 (b)**
	P. 21539	**3285.401(b)**
	P. 21540	**3285.402(b)(2)**
	P. 21543	**3285.402(c)**

In all of the noted Sections revise the language to read: "... Must be prepared by the manufacturer or by a register professional engineer or a registered architect in accordance with the manufacture's home design and the Manufactured Home Construction and Safety Standards (3280)."

REASON: As proposed by the department, "acceptable engineering practice" can be broadly interpreted. This might range from techniques that are appropriate for site built homes, modular homes or even small footprint commercial buildings. It is the view of the MHCC that design intended for the proper installation of a manufactured home should be based on specific, manufactured home criteria and the manufacturer's design for that home.

As proposed, the language suggested by the Department has 4 problems:

A. First, the statement seems to require manufacturer's staff to be registered PE' s or architects for all aspects of the design;

B. Unless the PE or Architect is familiar with the design and construction of manufactured homes they may apply "acceptable engineering criteria for site built residential construction" to manufactured homes;

C. Registered in what state? State of manufacture or installation?; and

D. Requiring PE' s or architects to do as much as the proposed installation standards seems to require for every installation rather than having the manufacturer provide this information drives up the cost of the installation significantly with no obvious benefit.

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5. P. 21536 3285.312 (c) (1) Revise the section to use similar language as used for flood such as: *"Footings placed in freezing climates must be designed and installed using methods and practices that prevent the effects of frost heaves in accordance with the manufactured home design and the requirements of the Manufactured Home Construction and Safety Standards (3280)."*

REASON: Footings placed in freezing climates must be designed and installed using methods and practices that prevent the effects of frost heaves in accordance with the manufactured home design and the requirements of the Manufactured Home Construction and Safety Standards (3280).

The proposed language in this comment provides a better description of the intended performance level of the particular feature and is in keeping with other Construction and Safety Standards that are performance based . In this case, the overall performance objective is to integrate a design that will not result in a frost heave. A frost heave is the mostly likely condition that would cause damage. The MHCC approach for this particular design element is consistent with HUD's proposed language with respect to flood hazards (See Proposed Section 3285.101 (d)). The MHCC recommends a similar approach for all related environmental design loads that the Department decides to include in the Installation standards such as seismic, flood, frost and wind.

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6. P. 21538. 3285.314(a). Delete (a) in its entirety and replace with: "The placement of a manufactured home on a permanent foundation must be in accordance with the state requirements and installed in accordance with their listing by a national recognized testing agency based on a nationally recognized testing protocol or installation in accordance with the manufacturer's approved permanent foundation installation instructions and in all cases based on the home's design and the load requirements of the Manufactured Home Construction and Safety Standards (3280)."

REASON: The changes recommended in this Section will help to insure that the default states set a criterion for all jurisdictions in that state that will establish minimum performance levels for permanent foundation systems. As noted in an earlier comment,

allowing all manner of locally controlled and regulated permanent foundation systems will lead to myriad options. A state specified regulation will preclude such potential issues.

In addition, the changes also offer precise guidance to both the manufacturer and the installer. A permanent foundation must be evaluated by a nationally recognized testing laboratory or that has been specifically designed, engineered and approved by the manufacturer. Further, the language imposes a condition that will be specific to the actual home design and that relates to the design load requirements of the MHCSS.

The proposed language in these comments would delete the language in the proposed rule concerning what lenders may or may not accept. What lenders do is really up to the lenders and should not be a part of the Installation Standards being adopted by the Department as required by the MHIA of 2000.

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Agency Docket Number:
Agency Document Number:
Document ID: HUD-2005-0006-0012
Docket ID: HUD-2005-0006
Title: Comment submitted by M. Butler, Fast Track Foundations Systems
Description: Please see the attached document for the remainder of this comment.
Type: Public Comment
Phase: Proposed Rule
Company/Group/Association Name: Fast Track Foundation Systems
Author Date (mm/dd/yyyy): 06-21-2005
Effective Date:

Comment: These comments (and those attached) only address issues that relate to permanent foundations. Please consider that the existing US model codes have well established standards for ?conventional construction? foundations that are consistent nationwide while successfully addressing all of the various soil types, frost depths, wind and seismic zones. I see no reason why the HUD proposed standards could not do the same type of thing for manufactured homes, while keeping permanent foundations economical. The Achilles heel of manufactured housing is financing, and this weakness is primarily due to inconsistent standards for permanent foundations, thereby lowering lenders? confidence. Of course uniform standards for permanent foundations can always be overridden by a licensed professional, according to current practice, allowing those homes to be set as that professional sees fit. Asking another private engineer to always reinvent the wheel for each home installation, and show specific compliance with generalized federal standards, is taking a big step backwards in efficiency and use of technology, while putting an additional unnecessary expense onto the homebuyer. It also will produce inconsistent results that will tend to create unnecessarily expensive foundations. Please keep in mind that these comments are coming from such a consulting engineer, and I have seen many examples of what designs are produced when the designers have no incentive to save money other than on liability insurance. Consistent federal design parameters that include graphical design information from

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manufacturers can provide safe consistent results. Even if conservative values are utilized, this will save consumers money on permanent foundations and home loans, allow increased entry to first-time home buyers, and increase the use of HUD-Code homes for cost-efficient housing.

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Comments and Questions Submitted by Michael Butler, Civil Engineer, MH Consultant
Representing Fast Track Foundation Systems, A Manufacturer of Permanent Foundations
on the

Model Manufactured Home Installations; Proposed Rule 24 CFR Parts 3280 and 3285

Federal Register Vol. 70, No. 79 April 26, 2005
Docket No. FR-4928-P-01; HUD-2005-0006

General Response (specific comments follow):

These comments only address issues that relate to permanent foundations. It is not clear to me what effect this legislation will have on homes installed in the various building jurisdictions that have adopted one of the model building codes for manufactured home foundation construction. Also it is not clear which HUD proposed installation standards do and do not apply to permanent foundations. It could easily be the case that some building officials and lenders will misinterpret aspects of this standard or apply portions of it where not intended – that would not be new behavior. It seems to me that a clearer distinction needs to be made between the requirements for permanent foundations and those for all other manufactured home installations.

Please consider that the existing US model codes have well established standards for "conventional construction" foundations that are consistent nationwide while successfully addressing all of the various soil types, frost depths, wind and seismic zones. I see no reason why the HUD proposed standards could not do the same thing for manufactured homes, while keeping permanent foundations economical. The Achilles heel of manufactured housing is financing, and this weakness is primarily due to inconsistent standards for permanent foundations, thereby lowering lenders' confidence. Of course uniform standards for permanent foundations can always be overridden by a licensed professional, allowing those homes to be set as that professional sees fit.

Following is an outline of permanent foundation issues that need to be addressed. More detailed comments that refer to the specific proposed code reference follow this outline.

A. Some Dilemmas with HUD Proposed Rules
   1. Conflicts with FHA and FEMA-85, etc (not addressed here)
      a. Inspection –Jurisdictions that have good public inspections don't need a private inspection
   2. Vapor Barriers – The high prevalence of non-compliance is a detriment; Just follow the existing Model Codes' practice
   3. Frost Depth – Proper shallow-interior-footing designs must be allowed, or the costs are just too high and unnecessary

B. Potential Misinterpretations of HUD Proposed Rules
   1. Further, clearer distinctions are required between permanent and non-permanent foundations
      a. Many misunderstandings occur, causing problems such as:
         i. Building Officials often cannot resolve apparent conflicts (or will not allow interpretation)
         ii. Increasing insistence upon comprehensive, complete **graphical** information
         iii. Lenders sometimes mistakenly require parallel (or conflicting) standards redundantly
      b. Non-permanent standards that do not apply need to be distinctly clarified as such
         i. Site Prep – "high spot" vs. "conventional construction" building site and footing excavations

ii. Not applicable to conventional foundation footings with waterproof perimeters
iii. Clarify No Need For: Tiedowns, Redundant Interior and Perimeter Bracing Systems, etc
c. Clarify conflicts between setup manuals and specific permanent foundation designs:
i. Discrepancy in Allowable Pier Height (A very common problem with building officials)
ii. Perimeter Support (Often redundant support is mistakenly insisted upon)
iii. Resolve redundancies and clarify permanent vs. non-permanent foundation instructions

C. Refinements / Additions Recommended
1. Site Prep, Footing Excavation, Drainage, Vapor Barrier per Existing Model Codes
2. Low-set standards are necessary to avoid problems, such as water (CA has standards for wet sites)
3. Better compatibility between manufacturer's instructions and permanent foundations
4. Consistent nationally-compatible permanent-foundation standards will help the industry

An Outline of Arguments for Consistent National Standards on Permanent Foundations:

D. Consistent standards for permanent foundations will increase the use of MHs, by:
1. Improving the low public confidence in MHs
a. Recent survey confirming consumer dissatisfaction shows that improvement is needed
b. After decades of MH marketing, there still is an image problem that includes foundations
2. Avoiding lender/underwriter problems such as:
a. Mortgage Underwriter Revisions/Terminations (due to inconsistent standards for foundations)
b. High Default Rates (Homeowners cannot refinance or sell)
c. Too-High Down Payment Requirements
i. Losing starter-home markets and speculative developers
d. Lender over-caution increases loan cost
3. Improving Consumer Appeal
a. Contemporary housing developments require low-sets, and so appropriate permanent perimeters
b. "Permanence" provides better image and respect for the MH industry overall
c. Increased consumer confidence creates more product demand
4. Higher foundation standards do not add cost
a. Money is saved on loan costs – Risk to lenders is reduced
b. Equity and borrowing power are increased – Higher LTV with lower rates saves cost
c. Higher Resale Value, Less Actual Depreciation
d. Fewer Warranty Problems – Warranty contracts will cost less
e. Inconsistent standards do not allow HUD-Code homes to realize their full cost/benefit potential

E. Increased industry cooperation will save on permanent foundation cost
1. Better-coordinating (graphically coordinating) setup manuals with permanent foundations will:
a. Better satisfy building officials, expediting the permitting process
b. Avoid expensive, slow, "clumsy", project-specific consultants (such as yours truly)
c. More accurate and explicit foundation information saves labor costs on installations
d. Providing more consistent foundation design quality will lower warranty and loan costs
2. Nationally consistent standards will allow interchangeable engineering design that saves cost

Comment 1: Footings, Section 3285.312 (p. 21510, column 3; and p. 21533, column 3):

Permanent foundation footings should be placed onto soil suitable for permanent support. Perimeter footings should be prepared according to existing model codes. Interior footings should be onto either in footing excavations specific to them or onto the surface of the crawl-space that has been

scraped/excavated clear of all organic materials down to suitable soil (or onto fill that has been prepared according to ASTM A-1557). Settlement and releveling of homes should not be an ongoing issue. Any type of interior supports and pads that are deemed appropriate by the manufacturer should also be acceptable for use on interior supports of permanent foundations, where any material longevity issues are satisfied. This type of a provision will save about $1000 per home (California prices) over excavating interior footings and casting in-situ concrete pads.

If it is determined that interior footings at crawl-space finished grade, or at least at a reduced depth, are appropriate in frost climates on perimeter-insulated foundation designs, then this determination should extend to permanent foundations. Placing all interior footings at frost depth below the crawl-space grade is terribly expensive and unnecessary. This type of a provision could save thousands of dollars per home affected.

Comment 2: Drainage, Part 3285-Summary; Subpart C-Site Preparation (p.21500, column 3); and 3285.203, Drainage (p. 21521, column 1):

Providing positive surface-water drainage away from the home is essential to a proper installation. What is not clear in the Model Installation Standards is the issue of backfilling against a permanent foundation wall, which necessarily makes the crawl space grade lower than the backfilled exterior. The condition of having a permanent perimeter foundation should create an exemption from the requirement that the home be set over a high point that drains in all directions at the rate of at least ½" per foot, but this is not clear in the Standards.

Most contemporary housing developments require that manufactured homes be set low ("pit set") for reasons of aesthetics, accessibility, or resale value. Indeed the practice of setting manufactured homes low is essential, if they are even to be utilized at all in a great variety of necessary housing projects, including affordable HUD projects requiring accessibility. Yet from the draft Model Installation Standards it is not clear that this practice is going to be acceptable where permanent perimeter foundations are utilized. Even where jurisdictions use model codes (that allow low sets), this apparent contradiction will likely cause problems. These types permitting of problems occur now.

In dry locations with good drainage, there is no special concern about having an excavated crawl space, provided the perimeter has a deeper-excavated cast-in-place concrete footing, a waterproof foundation wall, and the surface grades slope away at least per model code requirements (which are half that of the proposed Model Installation Standards; ¼" per foot over 5' minimum compared with ½" per foot over 10' minimum). Of course having water in the crawl space is a real concern for wetter sites or those that have poor drainage. Where low sets must be made for these types of conditions, it is essential that the crawl space excavation be made to drain all points to a sump having a permanently-installed pump that of course discharges to the exterior, and perhaps additional ventilation should be required. If the water table is higher than the proposed crawl-space excavation, then there is no acceptable way to set a home low.

Of course for all low sets the foundation perimeter must seal off any source of water from the outside. The foundation walls must be waterproof. Penetrations such as those from utility lines and their trenches must be sealed, and the foundation must seal off at the bottom with concrete cast against native

earth, just as is the case for model code construction. If these practices are not followed there will be problems with water entering the crawl-space after a significant rainfall.

Comment 3: Vapor Barriers, Part 3285-Summary; Subpart C-Site Preparation (p.21500, column 3); and 3285.204 Ground Moisture Control (p. 21523 column 1):

Vapor barriers on grade are presently suffering a strong backlash among home installers. They are reported to create mold underneath and add to soil instability due to their effect of somewhat saturating soils. There is no reason why the Model Installation Standards cannot adopt the same standard that is presently in the model building codes, particularly given that manufactured homes already have a vapor barrier installed under the floor framing, and model code constructed homes are not built with such a barrier. The typical model code standard is that the crawl-space ventilation be at 1/150th of the footprint area, or if a vapor barrier is at grade, then this ventilation can be reduced to 10% of that required without the barrier in place.

Vapor barriers came into use with the advent of products such as siding products that were sensitive to moisture. These siding products are all off the market now, because they continued to have problems even with homes having a vapor barrier. The home manufacturers often (usually?) still require a vapor barrier at grade, ostensibly to help reduce potential liability from mold claims. However installers seem to be increasingly omitting the barrier because of the problems they see it causing. This dissociation cannot be good for the industry.

Increasingly people (installers, developers) are preferring to simply provide generous ventilation (at least per model codes) rather than deal with the negatives of vapor barriers at grade. It is important to note that this design is far less prone to mold problems at wet sites than is the common slab-on-grade design of typical tract-home construction. Typical slab-on-grade foundations are very prone to mold problems at wet sites, and I think that HUD-Code homes need to be seen as a solution to that issue.

For perimeter-insulated designs in frost areas, of course the ventilation needs to be minimized/controlled and the vapor barrier at grade is essential.

Comment 4: Foundation Plans, Part 3285-Summary; Subpart D-Foundations (p.21501, column 1); and 3285.3 Subpart D-Foundations (p. 21523, column 1):

The simplest solution to issues of various pier size/spacings with regard to various home setup instructions and soil conditions is to follow the methods of existing model building codes for "conventional construction" provisions. Specifically, select an allowable bearing value for soil that is safe for the vast majority of building sites, be it 1000 of 1500 psf (these values could always be overridden by a licensed professional). This is assuming that these are permanent footings are on excavations per conventional model code construction, or onto an excavated crawl-space of a proper soil bearing surface. This soil bearing value is then utilized for creation of the manufacturers' setup manuals to address this maximum soil loading for supports (as they already do now for a variety of soil values), as well as comply with all other aspects of the proposed standards. Thus a home installed according to a necessarily complying setup manual will then comply with the proposed Model Installation Standards, at

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least as far as support locations and pad sizes. A model prescriptive standard for supports should only apply for those cases where a manufacturer's setup manual is somehow unavailable, such as perhaps for the relocation of a home. However it is always preferable that the manufacturer provides that information in all cases, as they know the specifics of each home construction and requirements of support. Of course a mechanism should to be in place so that if stronger soils can be proven, or if snow loads exceed prescriptive parameters, then allowable loadings and pad sizes could be adjusted by a licensed professional accordingly.

In the worst case, perimeter support of manufactured homes could always default to the existing model code "conventional construction" minimum standard of a continuous footing 12" wide by 12" deep for one-story, and 15" wide and 18" deep for two story, as manufactured home perimeters always have an equal or lower perimeter loading than does "conventional construction". Lenders and mortgage underwriters generally want to see "conventional" (permanent perimeter) foundations, and so will be comfortable with this design. There is no reason why the combination of the manufacturer's setup manual and a properly attached perimeter foundation cannot create the best, most efficient, and most appropriate permanent foundation for a manufactured home, while complying with all aspects of the Model Installation Standards.

However there is a reason why current setup manuals do not comply with both MHCSS and the Model Installation Standards, even though many of them are essentially doing that now with regard to these support issues. This reason is the height of the home setup. The setup manuals are made with the assumption that the home will be anchored with tiedowns, not with a foundation. Accordingly the manuals typically dictate that a pier cannot be over 3' tall (due to typical tiedown geometry requirements), whereas an engineered or conventional foundation can safely support that home at twice that height. Thus the setup manuals should acknowledge that a home can be set higher, if the lateral support system is designed for that. This contradiction of allowable heights should not cause problems, but it frequently does. So for a case of raising a home for flood mitigation or higher piers because of a sloping site, building officials will sometimes not permit an engineered permanent foundation at that height, because the setup manual dictates a lower maximum pier height.

What Building Officials increasingly insist upon (at least in California) is a graphical foundation plan, as opposed to a table of support sizes and spacings as is typically in a setup manual, because they do not want their staff to be responsible for any potential misinterpretations of such tables. These officials refuse to accept the typical setup tables anymore, and reject permit applications for homes set on private property unless a legitimate foundation plan, drawn to scale, is submitted. This is a real permitting hurdle that the industry needs to address. Always putting this burden back onto a private consultant will produce inconsistent and potentially very expensive results. This would be a setback for both consumer confidence in manufactured housing and in the cost efficiency of the permanent foundations.

As the manufacturer is the only one that knows the specific support requirements for a particular home, especially for the marriage line, the manufacturer should then provide at least such a foundation plan, based upon the safe allowable soil loadings determined by HUD, almost just as they do now with the pier tables in setup manuals.

Private licensed professionals should then design lateral support and anchoring requirements due to wind, seismic, and even flood forces, just as state approvals for foundations are done now. Perimeter support could either be the minimum required per the manufacturer, with a continuous perimeter foundation as a standard default. The only way to get efficient and consistent installation compliance with both the Model Installation Standards and the manufacturer's support requirements, is to require manufacturers to take responsibility for the vertical support of their own designs (that they have engineered already anyway), and provide foundation plans with all pier locations and minimum pad sizes specified and drawn to scale, in a graphical format serviceable for both the permit process and the foundation layout at the jobsite. Why not? The homes are all computer-drawn anyway. It is a simple extension to create a scaled foundation drawing from geometrical/structural data already created in electronic format for each home manufactured. Safe default soil loadings would always be used, unless overridden by a local professional (as is the standard practice now). These foundation plans would save cost on both the permitting process and the foundation layout and construction.

Asking another private engineer to entirely reinvent the wheel for each home installation, and show specific compliance with generalized federal standards, is taking a big step backwards in efficiency and use of technology, while putting an additional unnecessary expense onto the homebuyer. It also will produce inconsistent results that will tend to create unnecessarily expensive foundations. Please keep in mind that these comments are coming from such a consulting engineer, and I have seen many examples of what designs are produced when the designers have no incentive to save money other than on liability insurance. Consistent federal design parameters that include graphical design information from manufacturers can provide safe consistent results. Even if conservative values are utilized, this will save consumers money on permanent foundations and home loans, while increasing the use of the cost-efficient housing that HUD-Code homes provide.

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Docket ID:	HUD-2005-0006
Title:	Comment submitted by Jim Wilson, Plant Manager, Minute Man Anchors, Inc.
Description:	Please see the attached document for the remainder of this comment.
Type:	Public Comment
Phase:	Proposed Rule
Company/Group/Association Name:	Minute Man Anchors, Inc.
Author Date (mm/dd/yyyy):	05-05-2005
Effective Date:	
Comment:	I am attaching a letter sent to Mark Nunn, Manufactured Housing Institute, on May 5, 2005. The contents of the letter expressed our concerns with the proposed standards. We are submitting these concerns for your review. Yours, Jim Wilson
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May 5, 2005

Dear Mark,

As we discussed during our phone conversation on May 5, 2005, we have several concerns with the HUD proposed installation standards. We would appreciate your review and response to our concerns.

Our first concern centers on the definitions and subsequent use of the words "Labeled", "Listed or Certified".

Under Section 3285.5 the "Labeled" definition states that "a label, symbol or other identifying mark of 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 is indicated compliance with nationally recognized standards or tests to determine suitable usage in a specified manner". Subsequent usage of the definition as exhibited in 3285.303.d2, 3285.308 would lead one to believe that to have a manufactured pier meet the standard would require contracting, on an ongoing basis with an agency, such as RAADCO, to maintain product approval. Your interpretation of this was that the pier would meet the HUD standard as long as the pier had been tested by a nationally recognized third party testing agency and was labeled with the appropriate load bearing and safety factor information. Please review and let me know your assessment. (Note: Section 3285.303.d2 says that manufactured piers must be listed or labeled while Section 3285.385 says that manufactured piers must be listed and labeled.)

The definition of "Listed or Certified" in section 3285.5 is very similar to the definition of "Labeled" except that it requires that an approved product be on a published list. Once again our concern is that it would also require the contracting of an agency, such as RAADCO, on a continuing basis to maintain product approval status rather than using a nationally recognized third party testing agency for a onetime approval. (Note: Section 3285.402a states that ground anchors must be listed but also recognizes the one time approval process). As we discussed you were under the impression that the listing referred to product identification, such as our head marking which currently shows

manufacturer, type of anchor and soil classification that the anchor can be used in. Again please review and let us know.

Our final concern is over the zinc coating of anchors and stabilizers. We feel that it would be appropriate to use the zinc coating in Zone 3 (coastal areas) but allow the use of an alternative coating in all other areas.

Should you have any questions or require more detail on the above topics please feel free to contact me at 800-438-7277. My e-mail address is jwilson@minutemanproducts.com.

Sincerely,

Jim Wilson
Plant Manager
Minute Man Anchors, Inc.

cc: Abbie Moreno

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Document Detail: HUD-2005-0006-0033

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Document Detail: HUD-2005-0006-0033

Agency Docket Number:
Agency Document Number:
Document ID: HUD-2005-0006-0033
Docket ID: HUD-2005-0006
Title: Comment submitted by Chad Evans, South Dakota Manufactured Housing Association
Description:
Type: Public Comment
Phase: Proposed Rule
Company/Group/Association Name: South Dakota Manufactured Housing Association
Author Date (mm/dd/yyyy): 06-27-2005
Effective Date:
Comment: We are in agreement with MHI's letter in reference to docket number FR-4928-P-01 HUD 2005-0006. The one concern we have is ther requirement of piers or frost-free foundations in a rental community. We understand in talking with finance companies that they will not provide financing for these which will then the cost the homeowner. We fail to understand the need for such a requirement when most of the soil and the site areas are designed to support the home without below frost-sets. The state of South Dakota has already established installation standards for setting home in rental communities that require the home be installed in accordance to manufacturer's specifications. The net result will be unnecessary additional expense and create a large barrier to the niche of affordable housing.
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Document Detail: HUD-2005-0006-0034

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Document Detail: HUD-2005-0006-0034

Agency Docket Number:	
Agency Document Number:	
Document ID:	HUD-2005-0006-0034
Docket ID:	HUD-2005-0006
Title:	Comment submitted by Laurie Urbigkit, Executive Director, Wyoming Housing Alliance
Description:	Please see the attached document for the remainder of this comment.
Type:	Public Comment
Phase:	Proposed Rule
Company/Group/Association Name:	Wyoming Housing Alliance
Author Date (mm/dd/yyyy):	06-27-2005
Effective Date:	
Comment:	We are opposed to the proposed rules for a number of reasons. I've attached a detailed list of our concerns. Thank you.
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The Wyoming Housing Alliance, representing the manufactured housing industry in Wyoming, Board of Directors met on June 21st and unanimously endorsed the following comments regarding the proposed rules for Manufactured Housing Installation Model Standards.

We believe that there are two extremely important issues that relate to political aspects of the proposed rule. These are critical issues affecting: 1) the MHCC reviewing/updating of the model installation standard; and, 2) the enforcement of the standard in default states (preemptive nature).

• The model installation standard should not be codified under new federal regulation 24 CFR 3285 and be inserted as a subpart of 24 CFR 3280.
21499 / 1 / 2
21499 / 1 / 4
21517 / 3 / Part 3285

• The model standard should be preemptive in default states and not permit the default state, or its municipalities, to establish more stringent requirements for home installation.
21500 / 1 / 3
21518 / 2 / 3285.1(c)(2)

Other issues of concern are the following:

Pier configurations over 36" in height should not require mortared assemblies unless manufacturer's manual specifies otherwise.
21528 / 3 / 3285.306(b)
21529 / 2 / 3285.306(c)

• Placement of footings in freezing climates (below frost line) with exceptions for floating slabs and insulated foundation systems designed per ASCE 32 needs revision to more realistic performance-based language.
21502 / 2 / 4
21506 / 2 / 6
21506 / 3 / 8
21510 / 3 / 5
21512 / 2 / 2
21531 / - / 3285.310 Figure A
21536 / 1/ 3285.312(c)
21545 / 1 / 3285.404

• Permit states or local governments to impose requirements for homes on permanent foundations in accordance with local governing codes as long as the design exceeds the model standard, and not limit mortgage lenders to establish financing eligibility requirements or underwriting standards that provide greater protection than the model standard (completely opposite to the MHCC draft standard performance-based language for permanent foundation design by manufacturers or PEs).

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21502 / 3 / 2
21509 / 1 / 4
21509 / 1 / 5
21511 / 1 / 4
21538 / 1 / 3285.314(a)

• All anchoring equipment (ground anchors, straps, stabilizer plates, etc.) should not be required to be zinc-coated (0.3 oz/ft2 per square foot area) and be permitted to use equivalent corrosion protection as stipulated in HUD Code section 3280.306(g).

21512 / 1 / 1 – anchors
21512 / 1 / 4 – stabilizer plates
21539 / 2 / 3285.402(a)(1) – anchors
21539 / 3 / 3285.402(a)(2) – anchor straps
21543 / 2 / 3285.402(b)(3)(ii) – stabilizer plates

• All hinged roofs (regardless of wind zone location, roof pitch and heating vent/roof penetrations) should be applicable under the model installation standard.

21504 / 3 / 2
21512 / 3 / 5
21554 / 1 / 3285.801(f)

• The pocket penetrometer should be included as an acceptable method to determine soil bearing capacity.

21508 / 3 / 1

• The model standard should not include requirements for a nationally recognized ground anchor assembly test protocol (the MHCC Subcommittee/Installation is presently developing such a test protocol for HUD's consideration).

21501 / 3 / 2
21503 / 1 / 1

• HUD should not provide a nationally recognized test protocol to list/certify proprietary foundation support systems, and permit the MHCC to develop such a test protocol.

21509 / 2 / 3

• Complete home installation, including close-up assembly, should be the responsibility of the retailer/installer and not the manufactured home producer.

21499 / 2 / 3
21499 / 3 / 2
21499 / 3 / 3
21500 / 1 / 4

• Maintain status quo with regard to the model standard implementing any seismic criteria for home installation as this is better left to individual states to determine.

21500 / 2 / 5

GW

• The MHCC-developed figures and tables for mating line pier supports should be retained for minimum guidance to the installer (manufacturer's manuals by DAPIA approval and state-based installation standards by HUD approval will equal or exceed, so not necessary to supply specific figures in model standard for mating line piers).
21510 / 2 / 6

• Model standard should permit the use of ABS stabilizer plates that have been listed or certified by a national recognized testing protocol.
21512 / 1 / 4
21543 / 2 / 3285.4029b)(3)(ii)

• The current method(s) for ABS footing pad approval should maintain status quo (a specific standard for acceptance should not be included in the model standard as none exists).
21510 / 3 / 4

• The model standard is not entirely clear that manufacturers, or other PEs, may perform alternate designs for materials, components or assemblies, as long as they follow the basic design assumptions provided by the model standard.
21501 / 2 / 2
21501 / 3 / 6
21506 / 2 / 5
21509 / 2 / 2
21511 / 3 / 5
21512 / 1 / 3

• Flood hazard requirements for home installations should be in accordance with either the local authority having jurisdiction or the National Flood Insurance Program (the model standard makes both all inclusive no matter what the circumstance).
21520 / 1 / 3285.101(d)(1)

• There is no need to require model-specific home plan criteria, such as appropriate utility connections or mating line anchorage requirements, for every conceivable single- or multi-section home available (must be some reliance on the manufacturer's installation manual for model-specific home designs as the model standard is the minimum necessary requirements).
21058 / 1 / 3
21511 / 3 / 2

• Eliminate some of the "laundry list" items that might possibly lead to moisture build-up underneath the home as some items could be due to other factors not necessarily related to improper drainage of the home site.
21521 / 2 / 3285.203(a)

• Model standard should not specify that "minor tears" in the bottom board should be repaired as this is left to open interpretation (it is best to require any tear in the bottom board to be repaired).
21501 / 1 / 2
21523 / 1 / 3285.204(c)(3)

• Steel reinforcement specifications for cast-in-place concrete footings are not necessary for the model standard (these are specified by the manufacturer and would exceed the minimum standard requirements).
21502 / 2 / 4

• There is no reason for the model standard requiring a professional engineer or architect to be consulted for site preparation if the manufacturer's manual does not cover this reinstallation consideration (could substantially raise the cost of site preparation for the retailer/installer).
21506 / 2 / 2

• The model standard should not require any installation to remove a minimum 6" of ground surface to place footings on undisturbed soil.
21508 / 2 / 6

• Installer must provide adequate drainage of water runoff from gutters and/or downspouts (if installed on the home) at the installation site.
21501 / 1 / 2

• The manufacturer does not necessarily have to revise its installation manual to be consistent with the model standard format (as long as DAPIA approves that the manual equal or exceeds the model standard, the format should not matter).
21501 / 2 / 25

• The proposed rule already specifies that manufactured home piers, other than concrete block or steel jack stands, be listed and labeled for the intended use (no reason to provide a laundry list of requirements to meet).
21509 / 3 / 1

• The three options for using shims to fill gaps while leveling the home should be optional requirements (currently appears to be all inclusive without an "or" after each option).
21509 / 3 / 6
21528 / 2 / 3285.304(c)

• HUD should include the MHCC recommendation for providing bay window installations under the model installation standard (similar to the model standard covering all types of hinged roofs).
21512 / 3 / 5

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• Home construction items such as frame bonding, panel boxes and feeder requirements are part of the HUD Code requirements and should be omitted from the model installation standard (these items could be model specific and it is not possible to have a minimum standard that covers every conceivable condition).
21504 / 2 / 6

Respectfully submitted,

Laurie Urbigkit
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cc: WyHA Board of Directors

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Document Detail: HUD-2005-0006-0035

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Agency Docket Number:	
Agency Document Number:	
Document ID:	HUD-2005-0006-0035
Docket ID:	HUD-2005-0006
Title:	Comment submitted by Mark Ezzo, P.E., CMH Manufacturing, Inc., Vice President, Engineering, Clayton Homes, Inc.
Description:	Please see the attached document for the remainder of this comment.
Type:	Public Comment
Phase:	Proposed Rule
Company/Group/Association Name:	Clayton Homes, Inc.
Author Date (mm/dd/yyyy):	06-27-2005
Effective Date:	
Comment:	
Page Count:	6
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June 27, 2005

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410-0500

Re: Docket No. FR-4928-P-01; HUD-2005-0006
RIN Number 2502-AI25
Model Manufactured Home Installation Standards

Clayton Homes respectfully submits comments in response to the notice of proposed rulemaking, as provided in the Federal Register of April 26, 2005, (70 FR 21497 – 21559).

Clayton Homes and its subsidiaries make up a vertically integrated manufactured housing company with 32 manufacturing plants, 390 company-owned stores, more than 1,400 independent retailers, 83 manufactured housing communities and subdivisions, and financial services operations that provide mortgage services for more than 400,000 customers and insurance protection for 135,000 families.

Model Manufactured Home Installation Standard @ 24 CFR 3285

We believe that the federal model installation standard should not be codified under 24 CFR 3285, but instead should become subpart of 24 CFR 3280. By codifying the installation standard under Part 3285, the MHCC will not be privy and involved (120-day comment period prior to publication) with any proposed change by HUD in the future. The MHCC is the entity Congress specifically assigned to develop the installation standard. Accordingly, Congress fully intended for the MHCC to be directly involved in its continued maintenance and updating. As currently proposed, HUD has to only provide the MHCC review period for construction and safety standards. In the definition for manufactured home (page 21520), HUD has embraced the fact that Part 3285 is for installation standards and Part 3280 is construction and safety standards.

Construction/assembly of the home and installation of the home go hand-in-hand. There should be no distinction in the federal regulations at 24 CFR 3280. This is similar to other private sector building codes where the code contains the design and construction requirements for the residential home in addition to any installation criteria that must be followed to complete the home. There should be no differentiation in the federal manufactured housing program between construction/assembly and installation. HUD will provide oversight for both components, so two separate documents (regulations) are not necessary for construction and installation.

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Under the current 24 CFR 3282.14, the Alternate Construction (AC) process, as an extension of installation at the site, is used to ascertain that home installation conforms to local governing building code practices if the home, when completed, does not conform to the HUD Code. With respect to the model installation standard, this same process occurs with the only difference being that the home will conform to the HUD Code and its companion model installation standard once installed at the installation site. It seems illogical to have the federal mandate for homes not complying with the HUD Code to meet federal enforcement criteria and have homes that comply with the federal installation program outside of the either the current construction (Part 3280) or enforcement regulations (Part 3282).

HUD Enforcement in Default States

On page 21500, the proposed rule describes, for the first time, what a default state will be under the installation program. Under the MHIA §623(c)(11), states have a 5-year window of opportunity to develop and implement their own state installation program through state legislature. If a state determines that they neither have the manpower or the money to sustain a complete state installation program, then the state can cede its authority over to HUD, thus becoming a "default state." Essentially, a state has given up its right to establish and implement its own installation program.

HUD intends to permit a state or municipalities to establish more stringent requirements for the installation of HUD Code homes, as long as they meet/exceed the model standard. Any default state should be preempted from establishing more stringent requirements over and above what the model installation standard provides. States had a 5-year period beginning December 28, 2000 to enact an installation program that includes an installation standard. HUD would now permit any state or municipality to disregard the MHIA's provisions, wait and implement whatever they desire after the 5-year period ends, and circumvent the MHIA's requirements.

This essentially would permit "local jurisdictions" to enforce more stringent requirements for home installation over and above what HUD would enforce as the minimum requirements for default states. This could possibly be a way for local jurisdictions to "zone out" HUD Code homes in certain areas under their realm if they make installation requirements unreasonable for the community owner or individual tenant/homeowner to bear the initial cost. HUD's default state installation standard should be preemptive, similar to its status on design and construction of homes under 24 CFR 3280.

Technical Concerns

There are several technical concerns that we bring forward for comment.

- **Mortared Pier Configurations [page 21528-21529; 3285.306(b)-(c)]**
  These sections for pier configurations over 36 inches in height require a mortared assembly unless otherwise specified in the manufacturer's instructions. This is completely opposite of what was submitted by the MHCC. The MHCC stated that mortar is not required for double-stacked piers unless required by the

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manufacturer. This requirement could conceivably cause unnecessary mortared piers if the manufacturer's manual is silent on whether mortar is required, and then the model installation standard would require mortar in all instances. This same concern also applies to one caption in Figure B to §3285.306.

In all likelihood, a pier greater than 80" in height will require a mortared assembly. However, that is something that may not be in the manufacturer's instructions since a registered design professional (PE) can determine support system design. The last sentence of this section should be deleted as it serves no useful purpose and the PE design will specify whether mortar is required or not.

- **Placement of Footings in Freezing Climates [pages 21502, 21510 and 21512; 3285.312(c)]**
  The MHCC draft model installation standard included insulated foundations as a method to enable pier footing installations above frost line depth. This can be found in the MHCC draft model standard at Section 6.3.2.3. The basic intent was to include insulated skirting as an insulated foundation system, thus the reason the MHCC draft included a provision for cross-ventilation of the space under the home. In the proposed rule at §3285.312(c)(3), this statement was deleted and replaced with any system must be designed by a registered PE **and** conform to ASCE 32. This mandatory reference to ASCE 32 may effectively eliminate any type of insulated skirting system from being used to permit pier footings to be above the frost line.

  By requiring a PE design (acceptable), and to make any system subject to ASCE 32 requirements (not acceptable), essentially eliminates insulated skirting materials from ever being used. ASCE 32 is for foundation systems composed of a basement, a slab, or a crawl space with a perimeter foundation wall. Insulated skirtings, with typical piers and footings, may not be applicable to ASCE 32. There is no problem with ASCE 32 being used as an **optional** reference standard, but HUD made it mandatory in all instances, thus requiring a permanent-type foundation for every home where pier footings or slabs are installed above frost depth.

  Footnote 1 of 3285.310 Figure A requires all footings to extend below frost depth. This is contradictory to §3285.312(c), where insulated foundation systems may permit footings at grade in frost areas. The footnote should reference section §3285.312(c) for footing depths. This same comment also applies to Figure B.

  There have been tests/reports performed on frost protected foundations for HUD Code homes and skirting materials. The reports referenced below have been supplied to the department from MHI, and should be reviewed in determining whether it is necessary for all foundation systems in freezing climates to require conformance to ASCE 32.

CMH Manufacturing, Inc
Mailing Address: Box 9780 - Maryville, Tennessee 37802 - Street Address: 5000 Clayton Road - Maryville, Tennessee 37804
Phone 865.380.3000 - FAX 865.380.3781 or 865.380.3782

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.1 Manufactured Home Foundations Design for Seasonally Frozen Ground, Progressive Engineering, Incorporated (PEI), Goshen, IN, June 14, 1996.
2. OH MHA: Manufactured Home Movement – Lancaster, OH, PEI, July 2000 – 2001.
3. OH MHA: Manufactured Home Movement – Circleville, OH, PEI, November 2000 – 2001.
4. OH MHA: Manufactured Home Movement – Circleville, OH, PEI, September 2000 – 2001.

As an alternative to making ASCE 32 an optional reference standard or revising §3285.312(c) to the original MHCC language submitted on December 2003, we agree with the following MHI suggested performance-based language as a substitute, "Footings placed in freezing climates must be designed and installed using methods and practices that prevent the effects of frost heave in accordance with the manufactured home design and the requirements of the Manufactured Home Construction and Safety Standards (Part 3280)."

- **Permanent Foundation Systems [21502, 21509 and 21511; 3285.314(a)]** Section 3285.314 should state what is being referred to under this section. The described text of the proposed rule seems to be more in line with §3285.314(b). The first two sentences of this section are mainly commentary and provide no information on how or what to use when designing permanent foundation support systems for HUD Code homes. They should be deleted in their entirety. The first is in conflict with HUD's preemption for default states to not require more stringent requirements than that contained in the model standard. The model standard should make no mention of anything concerning how mortgage lenders or others can establish financing eligibility requirements for permanent foundations. This is for the financial institutions to decide and this standard needs to stay focused on the MHIA's premise, to provide a **model installation standard**. Financing options for the model standard are outside the scope of the MHIA and should be deleted.

The original MHCC recommendation stated the obvious. "Designs for permanent foundations (such as basements, crawl spaces, or load-bearing perimeter foundations) may be permitted to be obtained from the home manufacturer, or designed by a registered professional engineer or architect, and constructed in accordance with local building code requirements." This is the proper performance-based language for any section on permanent foundations.

Should the department still not finalize the MHCC language, below is performance-based language that can be used as an alternate, "The placement of a manufactured home on a permanent foundation must be in accordance with state requirements, installed in accordance with their listing by a nationally recognized testing agency based on nationally recognized test protocol, or installation in accordance with the manufacturer's approved permanent foundation installation instructions; and in all cases based on the home's design and the load requirements of the Manufactured Home Construction and Safety

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Standards (Part 3280)." This is performance-based language that the MHCC developed at its May 25, 2005 conference call. We agree with this type of performance language if the original MHCC language submitted in December 2003 is not appropriate for federal regulations.

Permanent foundation requirements would be specific to the installation site in question, see page 21509. With an approved state-based installation program, the LAHJ will require the permanent foundation systems to meet the local governing building codes. This has been the case for years and there is no compelling reason to change the current path. HUD's enforcement of an installation program in default states should provide the same. The MHCC draft provided the mechanism to cover this topic. It stated that when a permanent foundation system is contemplated, the design would need to follow accepted engineering practice, be designed by the manufacturer or professional engineer, and in conformance with local governing building codes. It is appropriate to re-insert this language in §3285.314 to alleviate the concern.

- **All Hinged Roofs to be Applicable [page 21504 and 21512; 3285.801(f)]** Hinged roofs are not subject to AC letters or On-Site Completion when only in Wind Zone I, limited to a 7:12 roof pitch, and do not have any flue penetration above the hinge. The model standard should be extended to cover any hinged roof regardless of wind zone, roof pitch or flue penetration. This is a normal construction sequence that is occurring more and more frequently for HUD Code home installations.

  The manufacturer can provide installation instructions for hinged roofs that conform to the HUD Code. These instructions would require DAPIA approval. This is no different than providing installation instructions for marriage line/crossover connections, alternate ground anchor assembly spacing that meets/exceeds the model installation standard, or close-up details for multi-section homes.

  This option of placing hinged roofs under the model installation standard would save considerable money with regard to IPIA inspection under the on-site completion rule, and considerable time under the AC letter process. This is not a new form of HUD Code assembly and it has been performed for years. Time has shown that industry can treat hinged roofs as installation set-up without departmental oversight.

  On page 21504, this same suggestion for the model standard to cover all hinged roof applications is covered. A hinged roof should be treated as construction of the home's roof assembly and subject to the requirements of the HUD Code. Once these hinged roofs are placed, they would have to conform to the HUD Code. This would be evident for hinged roofs in all Wind Zones, and not just Wind Zone I as HUD has specified in the proposed rule. As long as a hinged roof, in any Wind Zone, under any condition complies with the HUD Code after

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installation, it should not be subject to either on-site completion or an AC letter. If the hinged roof after installation fails to meet the HUD Code, then AC letters should be required.

- **Model Standard Should Include the Pocket Penetrometer [page 21508; 3285.202]**
  The various methods to determine soil bearing capacity and classification have been deleted in lieu of accepted engineering practice. One such method, the pocket penetrometer, is a common method to determine soil bearing capacity. It also is accepted in many states throughout the country as an appropriate method. It seems reasonable to permit the LAHJ to accept any method they feel is adequate. Therefore, it is suggested that §3285.202(a)(1) be modified to permit the LAHJ to accept any method as follows: "*Soil tests.* Soil tests that are in accordance with generally accepted engineering practice; a pocket penetrometer or other method acceptable to the LAHJ; or."

- **Shim Use for Home Leveling Purposes [page 21509 and 21528; 3285.304(c)]**
  Items (1) through (3) are supposed to be independent of each other. The standard should include "or" after each item for clarification when it comes to using shims to fill gaps while leveling the home. The manner presented states that "any combination applies," but without the "or" between each item, it appears to make them all mandatory in every instance. One interpretation would be that if you use item (2), item (3) is also necessary since item (2) ends with "and" making both inclusive.

We would like to express our appreciation to the department for publishing the proposed rule for development of the model manufactured home installation standard.

If there any questions concerning the above comments, I would be happy to address them with the department staff.

Sincerely,

Mark Ezzo, P.E.
CMH Manufacturing, Inc.
Vice President – Engineering

Cc: Mark Nunn, MHI

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Document Detail: HUD-2005-0006-0036

Agency Docket Number:	
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Docket ID:	HUD-2005-0006
Title:	Comment submitted by Sandi Jordan, Rt. 51 Homes, Inc.
Description:	
Type:	Public Comment
Phase:	Proposed Rule
Company/Group/Association Name:	Rt. 51 Homes, Inc.
Author Date (mm/dd/yyyy):	06-27-2005
Effective Date:	
Comment:	We would like to see the manufacturer stay involved versus engineers and code installation per manufacturer.
Page Count:	0
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Agency Document Number:
Document ID: HUD-2005-0006-0037
Docket ID: HUD-2005-0006
Title: Comment submitted by K. L. Teaman
Description: Please see the attached document for the remainder of this comment.
Type: Public Comment
Phase: Proposed Rule
Company/Group/Association Name:
Author Date (mm/dd/yyyy): 06-27-2005
Effective Date:
Comment:
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As a retailer/installer, I am very concerned that this proposed installation standard places a disproportionate responsibility on installation. It is very important that construction/manufacturing activities not be distanced from the installation process. Manufacturers have substantial control over design and construction, as well as who is retailing (hence installing) their homes.

Since the manufacturers design and construct the house, who better to direct the on-site completion of it, including designing suitable foundations? Please remember that this is supposed to be an affordable sector of residential construction. Making the "installer" and others (engineers & architects unrelated to the design/build process) responsible for final completion is counterproductive.

Most projects have more than one player in the install process (i.e. site preparation, erecting foundations, installation of house upon it, mechanicals, etc.). Many times there is no clear-cut single "installer". Manufacturers must be included in the final project.

If the standard is adopted as proposed, our firm will definitely be forced to move away from HUD code housing. The responsibility/liability does not correlate with the rewards.

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Agency Docket Number:
Agency Document Number:
Document ID: HUD-2005-0006-0038
Docket ID: HUD-2005-0006
Title: Comment submitted by C. P. Jones
Description: Please see the attached document for the remainder of this comment.
Type: Public Comment
Phase: Proposed Rule
Company/Group/Association Name:
Author Date (mm/dd/yyyy): 06-27-2005
Effective Date:
Comment: HUD and MHCC are to be commended for their efforts to develop an installation standard. I think it is a good start, but the proposal should include a few more provisions related to flood, wind and seismic hazard resistance. I have some specific comments (attached), which are submitted from me as an individual, not as a representative of an organization. The comments are based in large part on my working on NFPA 225 installation standard committees (Administration, Structural, Correlating) for the past few years. Finally, I would like to state that while the proposed rule is a good start, it is a work in progress, and I do not think HUD should allow the rule to preempt state and local governments that wish to adopt installation standards that exceed the minimum requirements in 3285. Installation standards, unlike standards related to the home construction, do not need to be entirely uniform across all states and jurisdictions. Site conditions vary widely, and state and local governments should be able to develop installation standards that reflect those variable conditions. Thank you. Chris Jones, P.E.
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Comment	Page/Section	Issue	Comment
1	p. 21500, Summary of Subpart B	The Summary states, "*The majority of Subpart B would contain provisions for the installation of new manufactured homes in flood hazard areas. Consistent with current practice, the Model Installation Standards would make the installer responsible to evaluate the prospective installation site to determine if the location is in a flood hazard area (§ 3285.101). If so located, the installer must refer to the Federal Emergency Management Agency's National Flood Insurance Program for specific requirements and further guidance relating to installation in flood hazard areas.*"	MHCC and HUD are commended f section on *Installation of Manufacti Hazard Areas* is good. MHCC and I commended for requiring a pre-insta regarding flood hazards at a home s However, the proposed flood provis sufficient and meaningful guidance and LAHJs to ensure installations w flood damage to homes. The approa proposed *Model Installation Standa* rejected by *NFPA 225*, which was d ANSI-recognized consensus process Basic performance requirements rel must be included in the *Model Insta* doing so will not conflict with, repla and LAHJ flood requirements.
2	p. 21500, Summary of Subpart B	The Summary asks, "*Should the Model Installation Standards attempt to set forth minimum installation requirements or pre-installation considerations to address seismic safety?* *If so, how should HUD establish seismic zones and what minimum requirements would be included in the Model Installation Standards?*"	Yes, the *Model Installation Standar* seismic safety. Many homes have be the seismic forces acting on the hom and anchorage systems that could no seismic-induced motions and could r from falling off the supports. One w is to refer LAHJs and installers of ho active areas to *NFPA 225*, which inc resistant stabilizing device designs.

Comment	Page/Section	Issue	Comment
3	p. 21500, Summary of Subpart B	The Summary states, *"The Model Installation Standards would incorporate by reference the design zone maps (§ 3285.102) provided in the MHCSS (24 CFR part 3280) to ensure that the design and construction of the home's foundation and anchorage is compatible with the design and construction of the manufactured* home."	As used in part 3285, this approach ensures that the design and construction of the home, and the foundation and anchorage, are tied to the lowest common denominator, and that neither takes advantage of advances in hazard identification and design. The design and construction of the foundation and anchoring systems addressed in part 3285 should be compatible with the design and construction of the home, but should not be restricted or limited by the outdated and obsolete design zone maps contained in part 3280. Every other national design standard and code for residential construction, including *NFPA 225* and *NFPA 501*, reference recent editions of *ASCE-7* for design loads. The *Model Installation Standards* must also do this to achieve equivalent protection to manufactured homes and manufactured home residents.
4	p. 21501, Summary of Subpart D	The Summary states, *"The Model Installation Standards would require foundations for manufactured home installations to be based on site conditions, home design features, and the loads the home was designed to withstand as evidenced on the home's data plate (§ 3285.301)."*	Limiting the design of the foundation to the loads the home was designed for (as indicated by the data plate) is inadequate. Manufactured homes are not designed for flood loads, but foundation and anchorage systems in flood hazard areas must be. Manufactured homes are not (presently) designed for seismic forces but foundation and anchorage systems in areas subject to seismic loads must be. This statement (or similar statements) is made throughout the Summary and should be revised. The *Model Installation Standards* themselves should not restrict foundation and anchorage design to those loads considered in manufactured home design.

Comment	Page/Section	Issue	Comment
5	p. 21501, Summary of Subpart D	The Summary states, "*When a home's design configuration differs from the design limitations noted in table footnotes, manufacturers or design professionals must use the design loads for which the home was constructed (based on the MHCSS) to design adequate support and anchorage.*"	Support and anchorage must be designed for loads not used (presently) for design of the home, specifically, flood and seismic loads. Failure to do so will result in supports and anchorages that will fail unnecessarily, and in easily preventable damage to homes.
6	p. 21501, Summary of Subpart D	The Summary asks, "*Do the Model Installation Standards need to include clearer performance equivalents so that alternative installation methods may be developed and subsequently approved or certified by Design Approval Primary Inspection Agencies (DAPIAs) or registered engineers or architects, as applicable*?"	Yes, expanded and clearer performance provisions are needed in the proposed installation standards. Installers, designers and LAHJs must recognize that flooding is different from other hazards and loads a home is designed to *resist*. Unlike live, dead, wind, rain, snow and seismic loads, designing a home to resist flood loads and effects is not practical or economic – the only way to prevent flood damage is to *avoid* flooding by elevating the home above the flood level on strong and durable stabilizing devices. Performance requirements to prevent flood damage must be included if the *Model Installation Standards* are to be effective.
7	p. 21502, Summary of Subpart D	The Summary asks, "*Should the Model Installation Standards incorporate nationally recognized consensus standards such as the American Concrete Institute code 530, for masonry structures and specifications?*"	Yes, the *Model Installation Standards* should incorporate national consensus standards whenever possible. This will ensure consistency and equivalency with foundation requirements of other model residential codes, affording manufactured home residents equivalent treatment and protection.

Comment	Page/Section	Issue	Comment
8	p. 21506, Summary of Changes to MHCC Proposed Standards, *Technical Consistency*	The Summary states, "*HUD invites comment concerning whether manufacturer installation instructions should provide that when general site conditions are not covered by the installation instructions, a professional engineer or registered architect must be consulted.*"	Yes, when manufacturer installation instructions do not address specific site conditions and hazards, the foundations and anchorage should be designed by a professional engineer or registered architect.
9	p. 21509, Summary of Changes to MHCC Proposed Standards, *Flood Hazard Areas*	The Summary sates, "*HUD specifically invites comment on the Model Installation Standards established for manufactured piers. Should the Model Installation Standards include other design characteristics or standards for manufactured piers such as protection from the elements, material specifications, a testing protocol, or listing and labeling requirements? HUD is not aware of a nationally recognized testing protocol or listing requirements to which manufactured piers are currently tested or listed.*"	Yes, piers and other support or anchorage devices should be specified, designed and constructed to resist weathering, corrosion and deterioration over a period of many years with minimal maintenance and upkeep on the part of the owner. This is especially important in coastal areas where salt spray corrosion is present, and in flood hazard areas where the supports and anchorage are subject to inundation. ASTM standards for wood, masonry, concrete and metal should be referenced. FEMA Technical Bulletins 2-93 (Flood-Resistant Materials) and 8-96 (Corrosion Protection for Metal Connectors in Coastal Areas) may be useful here. They are available at: http://www.fema.gov/fima/techbul.shtm An ICC protocol for testing the flood resistance of materials and components is available at: http://www.icc-es.org/Criteria/Protocol/index.shtml

Comment	Page/Section	Issue	Comment
10	p. 21511, Summary of Changes to MHCC Proposed Standards, *Permanent Foundations*	The Summary states, "*HUD specifically invites comment on permanent foundation requirements. The MHCC proposal indicated that permanent foundations are to be designed by a registered professional. However, the Model Installation Standards do not outline specific requirements or attempt to define a permanent foundation.* *Should the section be expanded to include a definition and expanded requirements for permanent foundations? If so, what specifics should be considered and included in the Model Installation Standards?*"	Permanent foundations should be designed and constructed according to the latest model building codes adopted for use at a given jurisdiction or in a given state. A registered design professional should be retained to design permanent foundations in flood hazard areas, seismic hazard areas and high wind areas.

Comment	Page/Section	Issue	Comment
11	p. 21512, Summary of Changes to MHCC Proposed Standards, *Severe Wind Areas*	The Summary states, "*Therefore, HUD proposes to modify this section by requiring that anchoring systems in high wind areas be designed by the home manufacturer for the special wind conditions or the anchorage must be designed by a professional engineer or registered architect in accordance with acceptable engineering practice for the increased wind design loads when site or other conditions prohibit the use of the manufacturers instructions. This modification clearly requires home manufacturers to provide instructions specific for the special wind conditions, or in the event that site or other conditions prevent the use of a manufacturer's instructions, a professional engineer or registered architect must design for the site conditions and special wind conditions.* *Does the proposed modification clarify the design requirements for high wind areas?*"	For every residential industry except the manufactured housing industry, "acceptable engineering practice" means design and construction in accordance with the latest versions of material and design standards. Use of the wind zones and pressures described by part 3280 are obsolete (by several editions of the national load standard, *ASCE-7*), inadequate and dangerous for some areas of the country. Manufacturer's instructions tied to part 3280 wind zones will not result in installations equivalent to the wind-resistant foundation designs for other residential buildings. The *Model Installation Standards* should make this point known to manufacturers, installers, designers and LAHJs. There are a variety of site conditions and hazards for which a manufacturer's instructions based on the *Model Installation Standards* will not be appropriate. The *Model Installation Standards* should do a better job of pointing out those situations where a professional engineer or registered architect must design the installation.
12	p. 21517, § 3280.302, and p. 21519, § 3285.5, *Definitions*	*Anchoring system* means a combination of anchoring equipment and anchor assemblies that will, when properly designed and installed, resist the uplift, overturning, and lateral forces on the manufactured home.	The definition should include forces on the foundation and anchorage systems, which may actually control the design in some instances (e.g., flood). Recommended change: *Anchoring system* means a combination of anchoring equipment and anchor assemblies that will, when properly designed and installed, resist the uplift, overturning, and lateral forces on the manufactured home <u>and on the home supports and foundation</u>.

Comment	Page/Section	Issue	Comment
13	p. 21519, § 3285.5, *Definitions*	*Design Flood* is used but not defined *Design Flood Elevation* is used but not defined	The term *design flood* is used in the definition of Flood Hazard Area (§ 3285.5), § 3285.302, § 3285.406, and § 3285.906. The term *design flood elevation* is used in § 3285.906. The following definitions should be added to § 3285.5: *Design flood.* The greater of either (1) the base flood or (2) the flood so designated by the LAHJ as its regulatory flood, with a 1 percent chance, or less, of being equaled or exceeded in any given year. *Design flood elevation (DFE).* The elevation of the design flood, including wave height, relative to the datum specified on a LAHJ's flood hazard map.
14	p. 21519, § 3285.5, *Definitions*	The definition of Lowest Floor should be revised to be consistent with the recommendations of the Manufactured Housing Institute in a letter to FEMA, dated August 26, 2002 (attached). The letter recommended using the bottom of the chassis frame beam as the lowest floor for elevation purposes in flood hazard areas. NFPA 225 adopted a similar provision.	*Lowest floor.* The floor of the lowest enclosed area of a manufactured home. For flood-resistant design purposes of these Model Installation Standards, the term "lowest floor" shall mean the bottom of the longitudinal chassis frame beam in A zones, and the bottom of the lowest horizontal structural member supporting the home in V zones. An unfinished or flood resistant enclosure, used solely for vehicle parking, home access or limited storage, must not be considered the lowest floor, provided the enclosed area is not constructed so as to render the home in violation of the flood-related provisions of this standard.

Comment	Page/Section	Issue	Comment
15	p. 21520, § 3285.101(c), *Pre-installation considerations,*	Some LAHJs and states may have adopted more stringent flood requirements than minimum NFIP requirements. The term *base flood* should be replaced with *design flood.* Some LAHJs may not have adopted a flood hazard map, but they should still be consulted regarding flood-resistant installation techniques.	Revise section (c) as follows: (c) *Pre-installation considerations.* Prior to the initial installation of a new manufactured home, the installer is responsible to determine whether the manufactured home site lies wholly or partly within a special flood hazard area as shown on the LAHJ's Flood Insurance Rate Map, Flood Boundary and Floodway Map, or Flood Hazard Boundary Map. If so located, the map, ~~and~~ supporting studies and requirements adopted by the LAHJ or state should be used to determine the flood hazard zone and ~~base~~ design flood elevation at the site. If the LAHJ has not adopted a Flood Hazard Map, the installer shall consult the LAHJ to determine flood-resistant installation requirements.
16	p. 21520, § 3285.101(d)(1), *General elevation and foundation requirements*	Some LAHJs and states may have adopted more stringent flood requirements than minimum NFIP requirements. The term *base flood* should be replaced with *design flood.*	Revise section (d)(1) as follows: (d)(1) *General elevation and foundation requirements.* (1) *Methods and practices.* Manufactured homes located wholly or partly within special flood hazard areas must be installed using methods and practices that minimize flood damage during the ~~base~~ design flood, in accordance with the LAHJ, 44 CFR 60.3(a) through (e), as applicable, and other provisions of 44 CFR referenced by those paragraphs.

Comment	Page/Section	Issue	Comment
17	p. 21520, § 3285.101(d)	Basic performance requirements should be added to a new section (d)(2). Renumber existing section (d)(2) as (d)(3)	(2) *Performance Requirements.* Manufactured home installations shall: (a) have the ***lowest floor elevated to or above the design flood elevation***; (b) elevate the home using support and anchorage systems designed and constructed to resist design flood loads in combination with other design loads; (c) construct the support and anchorage system with flood damage resistant materials; (d) in A zones, use flood openings in permanent foundation walls and in other solid walls (excluding skirting) forming an enclosure below the DFE, to allow the automatic equalization of flood levels; and (e) in V zones, elevate the home on piles, columns, piers or stands that minimize obstructions below the DFE, and use breakaway construction for any other non-structural walls or elements. ~~(2)~~ (3) *Related guidance.* Refer to FEMA 85–85, Manufactured Home Installation in Flood Hazard Areas.
18	p. 21520, § 3285.101	Detailed flood-resistant installation provisions contained in *NFPA 225* equal or exceed the requirements of the *Model Installation Standards*, and should be referenced for use by installers, designers and LAHJs, if they so choose.	(e) *Alternate Flood-Resistant Installation Provisions.* The flood-resistant installation provisions contained in *NFPA 225* shall be deemed to equal or exceed the flood requirements of the *Model Installation Standards.*

Comment	Page/Section	Issue	Comment
19	p. 21520, § 3285.102	Detailed seismic-resistant installation provisions contained in *NFPA 225* should be deemed acceptable, and should be referenced for use by installers, designers and LAHJs, if they so choose.	Add a new § 3285.102 and renumber existing § 3285.102 as § 3285.103. **§ 3285.102. Installation of manufactured homes in seismic hazard areas** The seismic-resistant installation provisions contained in *NFPA 225* shall be deemed to comply with, and not conflict with, the other requirements of the *Model Installation Standards.* **§ 3285.~~102~~103 Design zone maps.** (no changes to .103)
20	p. 21523, § 3285.301(d), *Alternative Foundation Systems*	Foundation design and installation provisions contained in *NFPA 225* should be deemed acceptable, and should be referenced for use by installers, designers and LAHJs, if they so choose.	Revise section 3285.301(d)(2): (2) System designs must be prepared by a registered professional engineer or a registered architect in accordance with acceptable engineering practice. Design of systems in accordance with NFPA 225 shall be deemed to comply with acceptable engineering practice.

Comment	Page/Section	Issue	Comment
21	p. 21523, § 3285.301 *General*	Limiting the design of the foundation to the loads the home was designed for (as indicated by the data plate) is inadequate. Manufactured homes are not designed for flood loads, but foundation and anchorage systems in flood hazard areas must be. Manufactured homes are not (presently) designed for seismic forces but foundation and anchorage systems in areas subject to seismic loads must be.	Revise section 3285.301(a) as follows: (a) Foundations for manufactured home installations must be designed and constructed in accordance with this subpart and must be based on site conditions, home design features, and the greater of (1) the loads the home was designed to withstand as shown on the home's data plate, and (2) design loads specified elsewhere in these *Standards* or by the LAHJ or state. NOTE: make a similar change wherever this provision appears in these *Standards*.
22	pp. 21524 to 21528, Tables 1-3 to § 3285.303	The pier design tables in § 3285.303 are intended for use under a limited set of circumstances and a narrow range of loads. No flood or seismic loads on the piers are stipulated in the notes at the bottoms of the tables.	Add a new footnote to the end of each Table: The designs described in the table assume no flood or seismic loads acting on the foundation or home. These tables shall not be used in flood hazard areas or seismic hazard areas. In these areas, the foundation and the anchorage design shall be specified by a registered engineer or professional architect.

Comment	Page/Section	Issue	Comment
23	p. 21539, § 3285.401	Requiring anchorage designs to only resist the wind loads specified by part 3280 will result in under design in some areas of the country. Section 3285.401 should be revised to reference more stringent design requirements that may be specified elsewhere in these *Standards*, or by the LAHJ or state. Wind-resistant anchorage provisions contained in *NFPA 225* should be deemed acceptable, and should be referenced for use by installers, designers and LAHJs, if they so choose.	(b) For anchor assembly type installations, the manufactured home must be secured against the wind as described in § 3285.401. So as not to preclude other design configurations or alternative foundation systems, when using another type of installation, the design must be prepared by a registered professional engineer or registered architect in accordance with acceptable engineering practice, the design loads of the Federal Manufactured Home Construction and Safety Standards (24 CFR part 3280) and § 3285.301(d). (c) All anchoring and foundation systems must be capable of meeting the greater of (1) the loads required by part 3280, subpart D of this chapter, that the home was designed to withstand as shown on the home's data plate, and (2) design loads specified elsewhere in these *Standards* or by the LAHJ or state. (d) Compliance with the wind requirements of *NFPA 225* shall be deemed to comply with § 3285.401(a) through § 3285.401(c).
24	pp. 21543 to 21545, Tables 1-3 to § 3285.401	The anchorage design tables in § 3285.401 are intended for use under a limited set of circumstances and a narrow range of loads. No flood or seismic loads acting on the foundations or homes are included in the designs.	Add a new footnote to the end of each Table: The maximum heights and strap spacings specified in the table assume no flood or seismic loads acting on the foundation or home. These tables shall not be used in flood hazard areas or seismic hazard areas. In these areas, the foundation and the anchorage design shall be specified by a registered engineer or professional architect.

Comment	Page/Section	Issue	Comment
25	p. 21545, § 3285.405, *Severe Wind Zones*	Section 3285.405 should be revised to allow more stringent anchorage design requirements that may be specified elsewhere in these *Standards*, or by the LAHJ or state. Wind-resistant anchorage provisions contained in *NFPA 225* should be deemed acceptable, and should be referenced for use by installers, designers and LAHJs, if they so choose.	**§ 3285.405 Severe wind zones.** When any part of a home is installed within 1,500 feet of a coastline in Wind Zones II or III, the manufactured home must be designed for the greater of the increased requirements as specified (1) on the home's data plate (refer to § 3280.5(f) of this chapter), (2) elsewhere in these Standards, or (3) by the LAHJ or state, and in accordance with acceptable engineering practice. Where site or other conditions prohibit the use of the manufacture's instructions, a registered professional engineer or registered architect in accordance with acceptable engineering practice must design anchorage for the special wind conditions. Compliance with the severe wind requirements of *NFPA 225* shall be deemed to comply with § 3285.405.

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Comments on Proposed Rule, Model Manufactured Home Installation Standards, Docket HUD-2005-0006. C. Jones. 6-27-05

MHI
Manufactured Housing Institute

August 26, 2002

Mr. John Ingargiola
Building Sciences and Technology Branch
Mitigation Administration, Room 412
Federal Emergency Management Agency
Federal Center Plaza
500 C Street, SW
Washington, DC 20472

RE: 44 CFR 60.3(c)(6)(iv), (12)(i) and (12)(ii)

Dear John:

Continuing our dialogue on the placement of HUD-code manufactured homes in flood hazard areas, this letter further substantiates the MHI recommendation that we recently voiced to you.

Regarding the referenced NFIP regulations that, for homes outside subdivisions or in new, expanded or substantially damaged subdivisions, requires manufactured homes to be elevated such that the lowest floor is elevated to or above the base flood elevation (BFE), MHI recommends that the bottom of the chassis frame beam be set at the BFE. From the standpoint of the NFIP text, the location of the "lowest floor" would be identified as the bottom of the chassis frame beam.

Recently, we asked some manufactured home community owners how the NFIP requirements are being implemented. It is reported that a typical local interpretation of the NFIP establishes the "lowest floor" as the bottom of the finished flooring just under the carpet. And, the "lowest floor" is required to be elevated 1.0 feet (freeboard) above the BFE.

The attached sketch compares the reported typical local NFIP interpretation with the MHI recommendation. The MHI design would elevate a representative HUD-code home finished flooring about 1.3 feet above the BFE, where the bottom of the chassis frame beam is at the BFE. This is slightly more conservative than the reported typical local NFIP interpretations.

On a related matter, we were pleased to hear at our July 17, 2002 meeting that FEMA has no plans to modify the NFIP at this time; therefore, it retains the 36-inch minimum-pier-height rule for existing communities, in accordance with Section 60.3(c)(12)(ii).

If you have questions, please contact me.

Sincerely,

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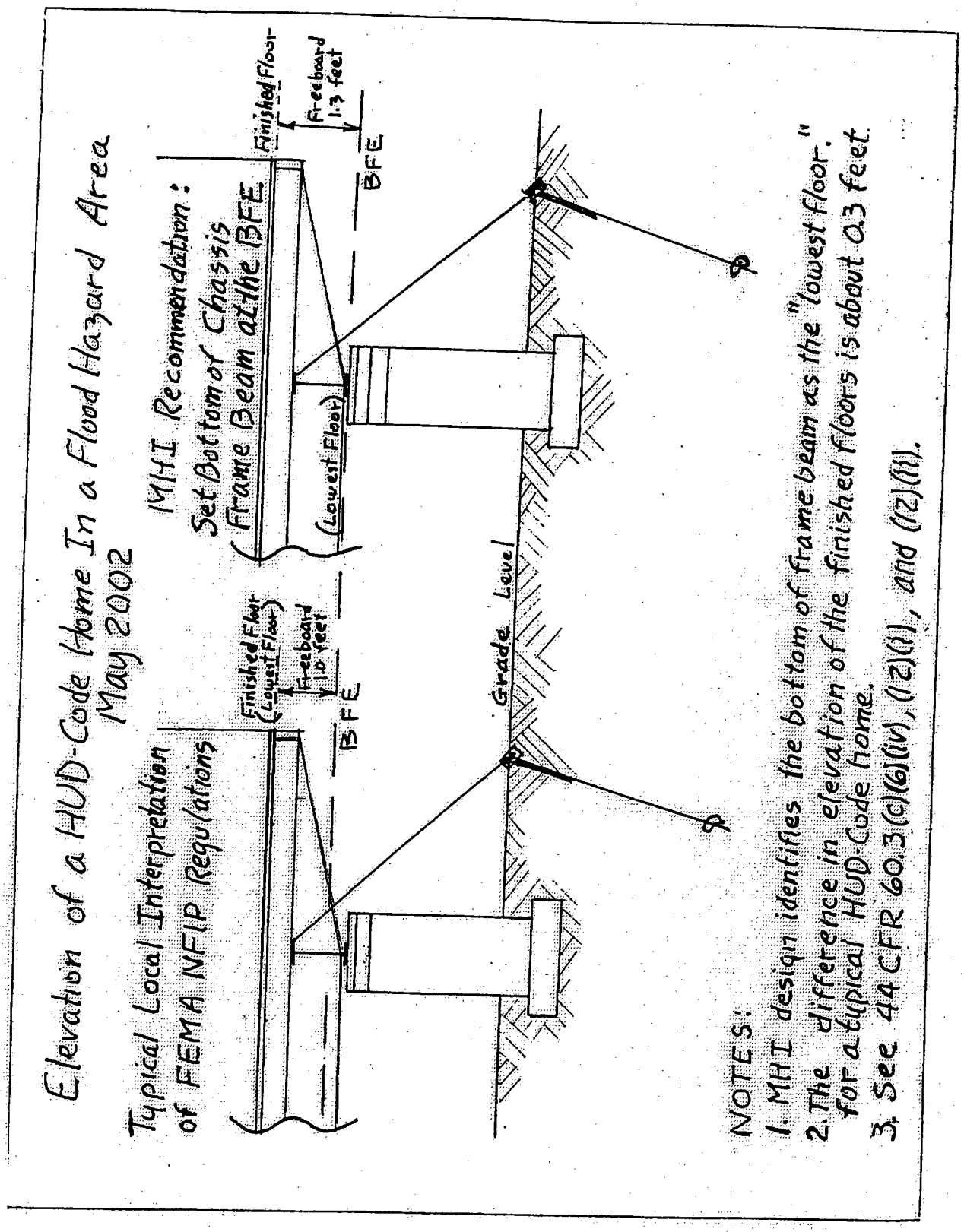
Elevation of a HUD-Code Home In a Flood Hazard Area
May 2002
Typical Local Interpretation of FEMA NFIP Regulations
Finished Floor (Lowest Floor)
Freebord 18 feet
BFE
Grade Level
MHI Recommendation: Set Bottom of Chassis (Frame Beam at the BFE
Finished Floor
Freeboard 1.3 feet
BFE
(Lowest Floor)
NOTES:
1. MHI design identifies the bottom of frame beam as the "lowest floor."
2. The difference in elevation of the finished floors is about 0.3 feet for a typical HUD-Code home.
3. See 44 CFR 60.3(c)(6)(iv), (12)(i), and (12)(ii).

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Agency Docket Number:
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Federal Register 3280 and 3285 Model Manufactured Home Installation Standards - Comments on proposed rule.

Comments on questions asked in preamble:
21509

It is not practical to anticipate every possible setup that may be utilized on site and therefore I do not feel that the manufactures should be required to provide basement set or permanent foundation set instructions in addition to tie down sets. However, each home should have at least one viable setup instructions provided and approved by the DAPIA. When a plant offers a true basement design with an opening for stairs at least one basement installation design should be provided.

It would be advisable for the Model Installation Standards to provide for the uniform testing of alternative type foundation and anchorage systems.

The standard should add that steel caps shall be protected from corrosion by a minimum of 10 mil of exterior use paint.

Recommend adopting the language from the 1997 SBC appendix H "Testing anchors" as a recognized test protocol. This code references that test shall be conducted in accordance with ASTM A 370. Soil classifications shall be determined in accordance with ASTM D 2487.

21522: Recommend modifying the minimum ground slope to 6" in first 10' to be consistent with the IRC and allow variances within the longer length of 10'.

21528:
3285.304(b) (2): This cap wording is not consistent with that of which is called out in the figures. As worded now this section would require a 4" thick steel cap, which should be reword to state "or ½" thick steel".
3285.304(c)(1): Minimum shim size should be revised to 8"x16" which is the size of the block. It does not appear that a 4x6" shim would provide adequate bearing strength.

3285.306(b) What is a corner pier and why should it always be constructed out of double blocks? The last sentence should be revised to state that "Mortar is NOT required for concrete block piers unless otherwise specified in the manufacturer installation instructions."

21524 & 21537: Recommend removing footing configuration layout designs of stacked footers. Stacked footers layouts should be considered an alternate setup and be design by other PE as such. Adding these layouts to the Model Installation Standards would complicate the standard and may result in poor foundation performances. Typically construction is performed using 2'x2' pre-cast concrete pads.

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21529 Figure A: Remove steel from 2"x8"x16" and add line ½"x8"x16" steel to pier cap specifications. Add 90% compaction to "controlled fill in footer note to be consistent with proposed text.

21530 Figure B to 3285.306: Revise 80" max pier height to 67" max. tie down charts provided in this standard are limited to 67" and therefore pier designs higher then 67" would require independent engineering designs. Add steel pier cap per item above to be consistent with figure A. Recommend adding note to figure that footer must extend below frost line or meet .312.

3285.309: Revise "top of the footing" to read "top of grade". Footer maybe several feet below grade due to frost line and thus measuring location should be grade rather then footer.

21531 Figure A to 3285.310 & 21532 Figure B: Note 3 states that Single stack concrete block piers must not exceed 10,000 lbs. This appears to greatly exceed the capacity of a single dry stack block which would have a capacity of approximately 5725#. I think the standard should specify the maximum capacity of dry stack blocks for both single and double configuration based on the capacity of standard structural CMU's of approximately 5725# and 11,450# respectively.

21533 section 3285.311(a) & Figure A on page 21534: Remove wood stoves from the list of items which require additional support blocking. Wood stoves have not been used in manufactured homes for many years. Revise footnote 4 to figure A by replacing atrium doors with sliding glass doors to maintain consistency with text on .311(a).

21540: The word "Alternative" should be removed from the last sentence. This Standard does not provide designs for longitudinal anchors and therefore these anchors must be designed by others.

21543: Note 2: "Diagonal ties must be attached to the top flange of the chassis beam to prevent rotation of the beam" should be removed. There are other ways to prevent rotation of the I beam including cross member placement. This sentence would make the far beam method impractical since the strap would interfere with bottom board , duct work, plumbing and other in floor equipment. The sentence should be reword to state: "When strap is attached to bottom of I beam, the I beam must be design to prevent rotation".

21544 Table 2 footnote 12. Recommend removal of the first sentence of this note which does not provide additional useful design guide information.

21544 Table 2 add to foot notes: Maximum force into vertical tiedown based on table is 1640 lbs. This is the maximum tension in the vertical strap as a result of the tie down calcs. in the table. This note is important to properly size sidewall strap attachment components and brackets, many of which may be installed on-site as approved by the States.

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21547: 3285.505 (d) remove "metal" from covering requirement. This language would not allow alternate materials which may perform equal or better then metal.

21554 3285.801(f) This section is implying new rules and requirements currently not in 3280. The on-site work required in wind zone 2 & 3, as well as that required for roof slopes greater than 7/12 is similar to that required in wind zone 1. This section should be deleted from this standard.

3285.803(c): This section should be revised or deleted. PVA adhesives should not be required for on-site fastening shipped loose panels. Standard drywall fastening does not require adhesive and thus there is no reason for this excessive prescriptive requirement. When the home has been design utilizing a structural adhesive for wall panels the requirement should be specified in the installation instructions of the particular home manufacturer. Remove figures to 3285.803.

Respectfully,

John Weldy, P.E.

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Agency Docket Number:
Agency Document Number:
Document ID: HUD-2005-0006-0040
Docket ID: HUD-2005-0006
Title: Comment submitted by John Ingargiola, Federal Emergency Management Agency (FEMA)
Description: Please see the attached document for the remainder of this comment.
Type: Public Comment
Phase: Proposed Rule
Company/Group/Association Name: Federal Emergency Management Agency (FEMA)
Author Date (mm/dd/yyyy): 06-27-2005
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We appreciate the opportunity to provide comment on the proposed standard. We feel proper installation is critical to the successful performance of manufactured homes particularly when exposed to natural hazards.

FEMA acknowledges and appreciates HUD's recognition and incorporation of flood-resistant provisions and flood hazard areas in the Model Installation Standards.

COMMENT #1
For installations in flood hazard areas, the National Flood Insurance Program's performance expectation, which is reflected in all local floodplain management regulations/ordinances, is that manufactured homes will be installed on foundations that are "designed and adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy." **COMMENT**: this language should be captured in Subpart D Foundation (3285.302) rather than in 3285.101(d). While §3285.101 requires the installer to determine if flood hazards affect the site, it is more appropriate that more explicit design considerations be articulated in the section on foundations. This is particularly important in order to recognize those states and communities that, in recognition of the vulnerability of manufactured home installations to flood damage, adopt regulations that exceed the minimum NFIP requirements.

COMMENT #2
The proposed Model Installation Standard applies only to installation of new manufactured homes. **COMMENT**: In order to provide equivalent protection to consumers, it would seem reasonable to require installers to comply with this standard when relocating a home that was installed under the standard.

COMMENT #3
It is important that the Model Installation Standard recognize that adequate installations include "siting, supporting, stabilizing and anchoring" and that there are site-specific conditions that the installer must identify prior to installation in order to install manufactured homes properly, notably whether a site is subject to mapped flood hazards. The proposed standard makes valuable progress towards this objective. **COMMENT**: Although this "responsibility is charged to installers," it is recommended that manufacturers be required either (a) to clearly include flood-resistant considerations in their foundation specifications (and state the conditions under which the specifications are applicable in terms of specific ranges of velocities, depths, and wave action); or (b) clearly state that their foundation specifications do not address flood loads and shall not be used in flood hazard areas.

COMMENT #4
In several places the Model Installation Standard recognizes that States and local jurisdictions may have more stringent installation standards. However, Subpart B refers only the LAHJ and to NFIP's regulations. In order to participate in the NFIP, Local floodplain management regulations/ordinances must meet the minimum requirements of the NFIP and be approved by the NFIP. **COMMENT**: Because of local conditions and past flood damage experience, many states and localities have adopted floodplain management requirements that are more stringent than the NFIP's minimum requirements. Installers should be aware that the more restrictive/stringent standards shall govern. This can best be accomplished by modifying the text in §3285.101(d) as follows:

§3285.101 (d) *General elevation and foundation requirements.* (1) *Method and practices.* Manufactured homes located wholly or partly within special flood hazard areas must be installed using methods and practices that minimize flood damaged during the base flood, including elevation of the lowest floor with respect to the design flood elevation and stability of the foundation for anticipated conditions and loads in accordance with the LAHJ, 44 CFR 60.3(a) through (e), as applicable, and other provisions of 44 CFR referenced by those paragraphs.

COMMENT #5
HUD invited comments concerning "whether manufacturer installation instructions should provide that when general site conditions are not covered by the installation instructions, a professional engineer or registered architect must be consulted." **COMMENT**: Yes, because flood loads vary significantly as a function of depth, velocity, rate of rise, wave impacts, and debris impacts, it is important that foundations either be pre-designed for a specific range of flood loads or be designed for site specific conditions.

COMMENT #6
HUD asked whether there is a need to reference other standards for recreational vehicles and recreational park trailers. **COMMENT**: The installation standard is silent on recreational vehicles and park trailers, except in the definition of "manufactured home." It would be appropriate for the standard to apply when such units are placed on a site for more than 180 days, unless the State or LAHJ has a more restrictive time period or other definition.

COMMENT #7
HUD asked whether manufacturers who design homes to be installed on perimeter or permanent foundations should be required to provide DAPIA-approved installation instructions. The Model Installation Standards §3285.314 currently specify that permanent foundations, if not available from the manufacturer or covered by the local building code, shall be designed. **COMMENT**: Instructions for permanent installation should be clearly state that compliance is required with the building codes and standards adopted by the applicable State or LAHJ, otherwise, the permanent foundation designs and installation instructions should be DAPIA-approved.

COMMENT #8
HUD specifically invited comment on the "established requirements for the design of pier and footing foundations as well as alternative, perimeter, and permanent foundation designs and proprietary-type foundation systems." **COMMENT**: The design requirements for piers and footing foundations should address minimum elevation of the lowest floor and site-specific flood loads. HUD should more clearly state that when used in flood hazard areas, additional consideration must be given to assure that flood loads are included in pier and footing foundations and other foundation types, including proprietary-type systems, and that the lowest floor of homes shall be elevated as required by the State or LAHJ.

COMMENT #9
HUD invites comments on manufactured piers and whether the Model Installation Standards should include other design characteristics or standards. **COMMENT**: The term "manufactured pier" is not defined in the standards. Installation instructions prepared by manufacturers (whether the home manufacturer or the pier manufacturer) should clearly identify limitations if

manufactured piers are used in flood hazard areas where they will be subject to flood loads due to depths, velocities, rates of rise, and wave and debris impacts.

COMMENT #10

The term "base flood elevation" is defined and used in §3285.101. The term "design flood elevation" is used in §3285.906 but is not defined. **COMMENT**: The NFIP and State and local regulations/ordinance use "base flood elevation" most commonly, however, ASCE 7, ASCE 24, the I-Codes, NFPA 225, NFPA 501, and NFPA 5000 use the term "design flood elevation." In most communities, the two are equivalent; some states and communities adopt a regulatory flood elevation that may be higher than that identified by FEMA maps. It is recommended that the Model Installation Standard define and use "design flood elevation" rather than base flood, as follows:

> *Design flood elevation.* The elevation of the Design Flood, including wave height, relative to the datum specified on the LAHJ's flood hazard map.

COMMENT #11

The term "lowest floor" is defined to be consistent with the NFIP, however it is used only in §3285.503(d) related to optional appliances which calls for appliances installed on the home site to be "anchored and elevated to or above the same elevation as the lowest elevation of the lowest floor of the home." **COMMENT**: It is important that the Model Installation Standard clearly incorporate the concept that manufactured homes in flood hazard areas must be elevated such at the lowest floor is at or above the design flood elevation (refer to Comment #4).

COMMENT #12

§3285.312 requires footings to be placed on undisturbed soil or fill compacted to 90% of maximum relative density. Fill is often used as a method to elevate sites so that the lowest floors of manufactured homes are elevated to or above the design flood elevation. **COMMENT:** While compaction of fill used to elevate a manufactured home site is an important consideration, there are other considerations that are important so that flood conditions do not adversely affect the fill. In particular, it is recommended that fill be sloped and vegetatively protected to minimize erosion which may undermine the home. This can be accomplished by adding to §3285.101 as follows (and renumbering):

> §3285.101(d)(2) *Installation on fill.* Fill placed in flood hazard areas in order to elevate manufactured home sites shall be placed, compacted, and sloped to minimize shifting, slumping and erosion during the rise and fall of floodwater.

COMMENT #13

The Model Installation Standard addresses optional skirting in §3285.504 and §3285.505 addresses crawlspace ventilation when a perimeter enclosure is installed. **COMMENT**: The NFIP requirements included in local floodplain management ordinances/regulations specify that enclosed areas under elevated MFH must have flood openings that allow for the automatic entry and exit of floodwaters. However, FEMA advises that such openings need not be required in non-structural vinyl or aluminum skirting. Enclosures of other materials should have flood openings that meet specific requirements related to location and size.

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Page/Section	Issue	Comment
p. 21500, Summary of Subpart B	The Summary asks, "*Should the Model Installation Standards attempt to set forth minimum installation requirements or pre-installation considerations to address seismic safety? If so, how should HUD establish seismic zones and what minimum requirements would be included in the Model Installation Standards?*"	Yes, the *Model Installation Standards* should address seismic safety. Many homes have been damaged, not by the seismic forces acting on the home itself, but by support and anchorage systems that could not withstand the seismic-induced motions and could not prevent the home from falling off the supports. One way to address this issue is to refer LAHJs and installers of homes in seismically active areas to *NFPA 225*, which incorporates seismic-resistant stabilizing device designs.
p. 21500, Summary of Subpart B	The Summary states, "*The Model Installation Standards would incorporate by reference the design zone maps (§ 3285.102) provided in the MHCSS (24 CFR part 3280) to ensure that the design and construction of the home's foundation and anchorage is compatible with the design and construction of the manufactured* home."	As used in part 3285, this approach ensures that the design and construction of the home, and the foundation and anchorage, are tied to the lowest common denominator, and that neither takes advantage of advances in hazard identification and design. The design and construction of the foundation and anchoring systems addressed in part 3285 should be compatible with the design and construction of the home, but should not be restricted or limited by the outdated and obsolete design zone maps contained in part 3280. Every other national design standard and code for residential construction, including *NFPA 225* and *NFPA 501*, reference recent editions of *ASCE-7* for design loads. The *Model Installation Standards* must also do this to achieve equivalent protection to manufactured homes and manufactured home residents.

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p. 21501, Summary of Subpart D	The Summary states, *"The Model Installation Standards would require foundations for manufactured home installations to be based on site conditions, home design features, and the loads the home was designed to withstand as evidenced on the home's data plate (§ 3285.301)."*	Limiting the design of the foundation to the loads the home was designed for (as indicated by the data plate) is inadequate. Manufactured homes are not designed for flood loads, but foundation and anchorage systems in flood hazard areas must be. Manufactured homes are not (presently) designed for seismic forces but foundation and anchorage systems in areas subject to seismic loads must be. This statement (or similar statements) is made throughout the Summary and should be revised. The *Model Installation Standards* themselves should not restrict foundation and anchorage design to those loads considered in manufactured home design.
p. 21501, Summary of Subpart D	The Summary states, *"When a home's design configuration differs from the design limitations noted in table footnotes, manufacturers or design professionals must use the design loads for which the home was constructed (based on the MHCSS) to design adequate support and anchorage."*	Support and anchorage must be designed for loads not used (presently) for design of the home, specifically, flood and seismic loads. Failure to do so will result in supports and anchorages that will fail unnecessarily, and in easily preventable damage to homes.
p. 21502, Summary of Subpart D	The Summary asks, *"Should the Model Installation Standards incorporate nationally recognized consensus standards such as the American Concrete Institute code 530, for masonry structures and specifications?"*	Yes, the *Model Installation Standards* should incorporate national consensus standards whenever possible. This will ensure consistency and equivalency with foundation requirements of other model residential codes, affording manufactured home residents equivalent treatment and protection.

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p. 21506, Summary of Changes to MHCC Proposed Standards, *Technical Consistency*	The Summary states, "*HUD invites comment concerning whether manufacturer installation instructions should provide that when general site conditions are not covered by the installation instructions, a professional engineer or registered architect must be consulted.*"	Yes, when manufacturer installation instructions do not address specific site conditions and hazards, the foundations and anchorage should be designed by a professional engineer or registered architect.
p. 21509, Summary of Changes to MHCC Proposed Standards, *Flood Hazard Areas*	The Summary sates, "*HUD specifically invites comment on the Model Installation Standards established for manufactured piers. Should the Model Installation Standards include other design characteristics or standards for manufactured piers such as protection from the elements, material specifications, a testing protocol, or listing and labeling requirements? HUD is not aware of a nationally recognized testing protocol or listing requirements to which manufactured piers are currently tested or listed.*"	Yes, piers and other support or anchorage devices should be specified, designed and constructed to resist weathering, corrosion and deterioration over a period of many years with minimal maintenance and upkeep on the part of the owner. This is especially important in coastal areas where salt spray corrosion is present, and in flood hazard areas where the supports and anchorage are subject to inundation. ASTM standards for wood, masonry, concrete and metal should be referenced. FEMA Technical Bulletins 2-93 (Flood-Resistant Materials) and 8-96 (Corrosion Protection for Metal Connectors in Coastal Areas) may be useful here. They are available at: http://www.fema.gov/fima/techbul.shtm An ICC protocol for testing the flood resistance of materials and components is available at: http://www.icc-es.org/Criteria/Protocol/index.shtml

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Page/Section	Issue	Comment
p. 21511, Summary of Changes to MHCC Proposed Standards, *Permanent Foundations*	The Summary states, "*HUD specifically invites comment on permanent foundation requirements. The MHCC proposal indicated that permanent foundations are to be designed by a registered professional. However, the Model Installation Standards do not outline specific requirements or attempt to define a permanent foundation.* *Should the section be expanded to include a definition and expanded requirements for permanent foundations? If so, what specifics should be considered and included in the Model Installation Standards?*"	Permanent foundations should be designed and constructed according to the latest model building codes adopted for use at a given jurisdiction or in a given state. A registered design professional should be retained to design permanent foundations in flood hazard areas, seismic hazard areas and high wind areas.
p. 21517, § 3280.302, and p. 21519, § 3285.5, *Definitions*	*Anchoring system* means a combination of anchoring equipment and anchor assemblies that will, when properly designed and installed, resist the uplift, overturning, and lateral forces on the manufactured home.	The definition should include forces on the foundation and anchorage systems, which may actually control the design in some instances (e.g., flood). Recommended change: *Anchoring system* means a combination of anchoring equipment and anchor assemblies that will, when properly designed and installed, resist the uplift, overturning, and lateral forces on the manufactured home <u>and on the home supports and foundation</u>.

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p. 21520, § 3285.102	Detailed seismic-resistant installation provisions contained in *NFPA 225* should be deemed acceptable, and should be referenced for use by installers, designers and LAHJs, if they so choose.	Add a new § 3285.102 and renumber existing § 3285.102 as § 3285.103. **§ 3285.102. Installation of manufactured homes in seismic hazard areas** The seismic-resistant installation provisions contained in *NFPA 225* shall be deemed to comply with, and not conflict with, the other requirements of the *Model Installation Standards.* **§ 3285.~~102~~103 Design zone maps.** (no changes to .103)
pp. 21543 to 21545, Tables 1-3 to § 3285.401	The anchorage design tables in § 3285.401 are intended for use under a limited set of circumstances and a narrow range of loads. No flood or seismic loads acting on the foundations or homes are included in the designs.	Add a new footnote to the end of each Table: The maximum heights and strap spacings specified in the table assume no flood or seismic loads acting on the foundation or home. These tables shall not be used in flood hazard areas or seismic hazard areas. In these areas, the foundation and the anchorage design shall be specified by a registered engineer or professional architect.

Seismic Criteria

In its present form, Part 3285 contains no criteria to protect homes from earthquakes. This omission makes the standard incomplete. Seismic criteria are already present in other national consensus standards that govern the construction of homes. These include:

- The International Building Code (IBC)
- The International Residential Code
- NFPA 5000 Building Construction and Safety Code. And
- NFPA 225 Model Manufactured Home Installation Standard also developed by the National Fire Protection Agency

Seismic phenomenon and the effects on buildings are well known and seismic risks have been mapped for the entire country. Earthquakes do not discriminate between buildings and the uniqueness of Manufacture Housing does not make them inherently resistant to seismic events. The proposed regulations will require the local authorities to determine seismic criteria. At best, this will lead to inconsistencies in installations. At worst, it will lead to homes not being adequately protected.

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Manufactured home installation systems, on the contrary, appear particularly vulnerable to earthquake damage, as documented by the State of California Department of Housing and Community Development (*The Effectiveness of Manufactured Home Systems During Earthquakes*, April 1992), in post-earthquake reconnaissance reports prepared the Earthquake Engineering Research Institute (EERI), and as discussed in *Multi-Hazard Foundation and Installation Guidance for Manufactured Homes in Special flood Hazard Areas* (FEMA 85). Particularly vulnerable are installation systems using piers not designed for seismic resistance and without positive attachment to the foundation and home chassis. Manufactured homes fall off of this type of support at very moderate ground shaking levels. This vulnerable type of installation is currently permitted for new homes in the Proposed Rule's prescriptive provisions. Also of concern is reliance on wind ground anchors in areas susceptible to soil liquefaction in seismic events. This seismic vulnerability will not be identified and mitigated in the Proposed Rule. The lack of seismic resistant provisions in the Proposed Rule will result in significantly less protection than is provided for other types of residential construction, and is technically inadequate in areas of high seismic hazard.

After the Earthquake Hazard Reductions Act of 1977, Congress authorized and funded the National Earthquake Hazards Reduction Program (NEHRP) to develop seismic safety provisions suitable for use throughout the United States and promote the adoption of developed provisions in standards and model codes. The lack of seismic provisions in the HUD Proposed Rule is contrary to national policy and 28 years of NEHRP development of seismic provisions and support of provisions inclusion in standards and building codes, including NFPA 50, NFPA 5000, International Building Code and International Residential Code. It is unacceptable to have a lower level of hazard resistance for manufactured housing relative to site- built housing and other common building types. The owners of Manufactured Homes deserve the same level of protection already offered to owners of other styles of homes.

To address this, we suggest that the approach used in NFPA 225 be used in Part 3285. In NFPA 225, seismic criteria is required for homes placed on sites in Seismic Design Categories (SDCs) D_0, D_1, D_2 and E. Homes placed on sites in SDC A, B and C (which includes approximately half of the United States) require no additional seismic detailing. Like the proposed installation standard NFPA includes proscriptive designs for seismic resistance and allows engineered designs or equivalent systems. The proscriptive designs develop had the added benefit of providing HUD required wind protection without having to install ground anchors or other stabilizing devices.

Engineered Designs

The HUD standard requires engineered designs for all sites where the manufacturer's instructions or the prescriptive designs included in the standard can not be used. However, the performance criteria for the designs are not specified. This will allow design professional to develop foundations that meet the standard but may be inadequate to resist all natural hazards at the site.

To address this, we suggest that all engineered foundation be designed per ASCE 7 Loads for Buildings and Other Structures. ASCE 7 is a state-of-the-art consensus standard which is used by NFPA 5000, the IBC, the IRC and the Florida Building Code.

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Document Detail: HUD-2005-0006-0043

Agency Docket Number:	
Agency Document Number:	
Document ID:	HUD-2005-0006-0043
Docket ID:	HUD-2005-0006
Title:	Comment submitted by Michael A. Caldarera, Director, Regulatory and Technical Services, National Propane Gas Association (NPGA)
Description:	This comment was submitted through Regulations.gov. Please see HUD-2005-0006-0044 for the remainder of this comment.
Type:	Public Comment
Phase:	Proposed Rule
Company/Group/Association Name:	National Propane Gas Association (NPGA)
Author Date (mm/dd/yyyy):	06-27-2005
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HUD-2005-0006-0044	Comment submitted by Michael A. Caldarera, Director, Regulatory and Technical Services, National Propane Gas Association (NPGA)	Comment Supporting Attachment

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June 27, 2005

Regulations Division,
Office of General Counsel,
Room 10276
Department of Housing and Urban Development
451 Seventh Street SW
Washington, D.C. 20410-0500

Re: Department of Housing and Urban Development; Docket No. FR-4928-P-01 (Proposed Rule – Model Manufactured Home Installation Standards)

The purpose of this letter is to submit comments of the National Propane Gas Association (NPGA) in response to the Department of Housing and Urban Development (HUD) Proposed Rule published April 26, 2005.

As a matter of background, NPGA is the national trade association of the propane industry with a membership of about 3,800 companies, including 39 affiliated state and regional associations representing members in all 50 states. Although the single largest group of NPGA members is retail marketers of propane gas, the membership also includes propane producers, transporters and wholesalers. Propane gas is used in a variety of applications including residential installations, and more specifically, it is used as a fuel gas for space heating and water heating in manufactured homes. Based on this application, NPGA submits the following comments.

The proposed rule would establish new Model Installation Standards for the installation of new manufactured homes by codifying a new part 3285 of title 24 to the Code of Federal Regulations.

HUD has chosen not to include the installation standards as part of the Construction and Safety Standards (24 CFR Part 3280) to avoid confusion between parties whose responsibilities are construction versus installation. In addition, HUD clearly states that the requirements of installation should be consistent with the requirements of Part 3280. Consequently, NPGA's comments seek to clarify areas of interest to our members within the proposal that conflict with existing requirements contained in Part 3280.

Proposed Section 3285.503 (Optional Appliances)

Paragraph (c) of this section addresses *Appliance Venting*. Subparagraph (1) should be revised as follows in order to be consistent with the wording contained in Part 3280.707(b):

> "Heat producing appliances, except ranges and ovens, must exhaust to the exterior of the home."

Proposed Section 3285.605 (Fuel Supply Systems)

Paragraph (a) of this section addresses *Proper Supply Pressure*. The first sentence of this paragraph should be revised as follows in order to be consistent with the requirements specified in Part 3280.705(a):

> "The gas piping system in the home is designed for a pressure that is at least 7 ~~10~~ inches of water column…and not more than 14 inches of water column…"

NPGA appreciates your consideration of our comments. Please feel free to contact us if you have any questions.

Sincerely,

Michael A. Caldarera

Michael A. Caldarera
Director, Regulatory and Technical Services

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Agency Docket Number:	
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Document ID:	HUD-2005-0006-0030
Docket ID:	HUD-2005-0006
Title:	Comment submitted by Richard M. Reinhard, P.E. Manager of Manufactured Housing Operations, PFS Corporation
Description:	Please see the attached document for the remainder of this comment.
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Phase:	Proposed Rule
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June 27, 2005

Regulations Division
Office of General Counsel
Room 10276
Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410-0500

Re: Docket No. FR-4928-P-01; HUD-2005-0006
RIN Number 2502-AI25
Model Manufactured Home Installation Standards

Introduction

PFS Corporation respectfully submits the following comments in response to the proposed rulemaking noticed in the ***Federal Register*** of April 26, 2005, (70 FR 21497 – 21559).

PFS is a third-party agency that has provided both IPIA and DAPIA services to the manufactured housing industry since the beginning of the HUD manufactured housing program and provided inspection services even prior to that.

General Comments

The Manufactured Housing Consensus Committee (MHCC) provided the department with a draft model installation standard In December, 2003. The MHCC was directed by the Manufactured Housing Improvement Act of 2000 [MHIA, section 605(b)(1)] to perform this activity as part of the department's development of a comprehensive installation program for the entire country.

Under the MHIA, there are three basic components for the comprehensive installation program. These are: 1) development of a model installation standard [MHIA, sections 605(a) and 605(c)(3)(A)]; 2) training and licensing/certification of manufactured home installers [MHIA, Section 605(c)(3)(B)]; and 3) inspections of the installation of manufactured homes [MHIA, section 605(c)(3)(C)]. The last two aspects of the comprehensive installation program are subject to different rulemaking and no further comments will be provided.

Throughout its development of the draft model installation standard, the MHCC used the MHIA's three elemental principles to serve as the foundation for its draft document. These are that the model installation standard would: 1) serve as the model installation standard that a state-based installation standard must meet or exceed; 2) serve as the model installation standard that a manufacturer's installation instructions must meet or exceed; and 3) serve as the installation standards for installing homes in states where HUD is responsible for operating a comprehensive installation program because the state has elected not to do so.

(10)

Upon reviewing HUD's proposed rule, published on April 26th, two highly contentious and extremely important issues, outside of any technical concerns, became readily apparent. These issues are in direct opposition to the industry's established position taken during the development of the draft model installation standard document for HUD consideration. These two issues are:

1. The consideration of how the installation program will be codified and updated in the future, and:
2. How HUD will enforce the HUD model installation standard in default states.

Model Manufactured Home Installation Standard @ 24 CFR 3285

PFS finds it troubling that the federal model installation standard should be codified under 24 CFR 3285, instead of becoming a subpart of 24 CFR 3280. By codifying the installation standard under Part 3285, HUD has circumvented the influence and oversite of the MHCC for matters involving installation. The MHCC was specifically assigned by Congress to develop the installation standard and PFS is certain that Congress fully intended for the MHCC to be directly involved in its continued maintenance and updating. As currently proposed, HUD has effectively removed the MHCC from the continued review and update process. In the definition for manufactured home (page 21520 of the Federal Register), HUD has embraced the fact that Part 3285 is for installation standards and Part 3280 is construction and safety standards.

Construction/assembly of the home and installation of the home go hand-in-hand. There should be no distinction in the federal regulations at 24 CFR 3280. This is similar to other private sector building codes where the code contains the design and construction requirements for the residential home in addition to any installation criteria that must be followed to complete the home. There should be no distinction in the federal manufactured housing program between construction/assembly and installation. HUD will provide oversight for both components, so two separate regulations are not necessary for construction and installation. The only way such an arrangement could be considered feasible is if HUD ***in writing*** acknowledges the MHCC as having similar jurisdiction and oversite of 3285 as it has for 3280 and 3282.

It is PFS' experience and the experience of all of PFS' clients that the vast majority of consumer complaints, when the "root cause" is established, come as a result of improper set-up and installation procedures and ***not*** from the highly-regulated manufacturing process. In providing the consumer with safe, affordable, comfortable and durable housing, the "weak link" since the inception of the HUD program has always been in the actions of the unregulated dealer and his equally unregulated set-up crews. Now, after almost 30 years, that weak link is being recognized, strengthened and regulated.

Under the current 24 CFR 3282.14, the Alternate Construction (AC) process, as an extension of installation at the site, is used to ascertain that home installation conforms to local governing building code practices if the home, when completed, does not conform to the HUD Code. With respect to the model installation standard, this same process occurs with the only difference being that the home will have to conform to the HUD Code ***and*** its companion installation standard once installed at the installation site. It seems illogical to have a federal mandate for the MHCC to oversee the in-plant construction of a home, but not have the same mandate, organization and procedures to oversee the on-site installation of that home.....the acknowledged "weak link."

HUD Enforcement in Default States

On page 21500, the proposed rule describes what a default state will be under the installation program. Under the MHIA §623(c)(11), states have a 5-year window of opportunity to develop and implement their own state installation program through their state legislature. If a state determines that they neither have the manpower nor the money to sustain a complete state installation program, then the state can cede its authority over to HUD, thus becoming a "default state". Essentially, a state has given up its right to establish and implement its own installation program.

Under this condition, HUD intends to permit those states or municipalities to establish ***more stringent*** requirements for the installation of HUD Code homes. Once again, this seems illogical and/or backwards. PFS believes that a default state should be ***preempted*** from establishing more stringent requirements over and above what the model installation standard provides. States had a 5-year period beginning December 28, 2000 to enact an installation program that includes an installation standard. As it presently stands, HUD would ***reward*** any state or municipality that has demonstrated that it does not have the time, money, interest or political will to pass an installation program by simply allowing them to disregard the MHIA's provisions, wait (do nothing) and then implement whatever they desire after the 5-year period ends, thus completely circumventing the MHIA's requirements.

Furthermore, this essentially would permit "local jurisdictions" to establish more stringent requirements for home installations over and above what HUD would enforce as the minimum requirements for a default state. This could possibly be a way for local jurisdictions to "zone out" HUD Code homes in certain areas under their realm if they make installation requirements unreasonable for the community owner or individual tenant/homeowner to bear the initial cost. HUD's default state installation standard should be preemptive, similar to its status on design and construction of homes under 24 CFR 3280.

Technical Concerns

There are some technical concerns that PFS would like to comment on as well. Some concerns arise because HUD has revised or ignored the original MHCC December 2003 draft standard. These concerns are listed in two separate categories entitled Critical and Important Issues.

In addition, HUD has raised a number of questions relating to the model standard's content and the extent of its enforcement measures. Page number(s) will be referenced throughout along with actual section references where PFS's comments apply.

1. Critical Issues

- **Mortared Pier Configurations [page 21528-21529; 3285.306(b)-(c)]**
  These sections for pier configurations over 36 inches in height require a mortared assembly unless otherwise specified in the manufacturer's instructions. PFS believes this is ***opposite*** of what was submitted and intended by the MHCC. The MHCC stated that mortar is not required for double-stacked piers unless required by the manufacturer. This requirement could conceivably cause unnecessary mortared piers if the manufacturer's manual is silent on whether mortar is required, and then the model installation standard would require mortar in all instances. This same concern also applies to one caption in Figure B to §3285.306.

In all likelihood, a conventional block pier greater than 80" in height will require a mortared assembly. However, that is something that may not be in the manufacturer's instructions since a registered design professional (PE) can determine support system design. The last sentence of this section should be deleted as it serves no useful purpose and the PE design will specify whether mortar is required or not.

Also, in the same area, the wording in 3285.304(b)(1 thru 4) on "Caps" seems ***not*** to match Figures "A" or "B". Figure "A" calls for a 2" thick piece of steel which is ***way*** excessive whereby a 2" (nominal) piece of wood would not be. Also, the small detail shown in Figure "B" seems to contradict the wording in 3285.304(b)(4). If the last course of blocks finishes with the joint between the adjacent blocks parallel to the I-beam, the split caps will want to go the opposite direction, and the plates w/shims, opposite that.

- **Placement of Footings in Freezing Climates [pages 21502, 21510 and 21512; 3285.312(c)]** When older homes are to be replaced in existing parks with newer, safer, more modern homes, the prevailing footing/foundation design becomes a serious consideration. For this reason, the MHCC draft model installation standard included insulated foundations as a method to not have to completely re-do the existing foundation system to extend pier footings to the frost line depth. This can be found in the MHCC draft model standard at Section 6.3.2.3. The basic intent was to include insulated skirtings as an insulated foundation system, thus the reason the MHCC draft included a provision for cross-ventilation of the space under the home. In the proposed rule at §3285.312(c)(3), this statement was deleted and replaced with any system must be designed by a registered PE **and** conform to ASCE 32. It would appear that this mandatory reference to ASCE 32 may effectively eliminate any type of insulated skirting system from being used to permit pier footings to be above the frost line. Without a viable option to provide an insulated foundation system under replacement homes in existing parks, many consumers, who would benefit from living in newer homes, could be denied that benefit.

  Requiring a PE to design an insulated foundation system is a good idea, but to make that system subject to ASCE 32 requirements, essentially eliminates insulated skirting designs from ever being used. ASCE 32 is for foundation systems composed of a basement, a slab, or a crawl space with a perimeter foundation wall. Insulated skirtings, with typical piers and footings, may not be applicable to ASCE 32. There is no problem with ASCE 32 being used as an **optional** reference standard, but HUD made it mandatory in all instances, thus requiring a permanent-type foundation for every home should you not want to go to frost depth with pier footings.

  Also, if using §3285.312(c)(2), for slab systems, ASCE 32 is also required for conformance. ASCE 32 will require vertical and horizontal insulation materials below grade. Many PFS clients do insulate floating slab systems in freezing climates but the affect of the more stringent ASCE 32 requirement needs to be addressed.

  Under §3285.404, it is possible for ground anchors not to be installed below frost line. The model standard permits footings to be located above frost line by §3285.312(c). One can use a floating slab or insulated foundation system and have footings above frost line. If the footings which bear the vertical loads can be above frost line, then why would the anchoring system not be able to do the same? The longest ground anchor produced is 6 feet long, and in many areas of the country, it may be next to impossible to install then in all soil classifications. There should be a

reference to §3285.312(c), in which the approved alternate anchoring system may be included as part of a listed or labeled foundation support system (floating slab or insulated foundation).

Footnote 1 of 3285.310 Figure A requires all footings to extend below frost depth. This is contradictory to §3285.312(c), where insulated foundation systems may permit footings at grade in frost areas. The footnote should reference section §3285.312(c) for footing depths. This same comment also applies to Figure B.

There have been tests/reports performed on frost protected foundations for HUD Code homes and skirting materials. Several of these reports are referenced below for HUD's review in determining whether it is necessary for all foundation systems in freezing climates to require conformance to ASCE 32.

1. Manufactured Home Foundations Design for Seasonally Frozen Ground, Progressive Engineering, Incorporated (PEI), Goshen, IN, June 14, 1996.
2. OH MHA: Manufactured Home Movement – Lancaster, OH, PEI, July 2000 – 2001.
3. OH MHA: Manufactured Home Movement – Circleville, OH, PEI, November 2000 – 2001.
4. OH MHA: Manufactured Home Movement – Circleville, OH, PEI, September 2000 – 2001.

As an alternative to making ASCE 32 an optional reference standard or revising §3285.312(c) to the original MHCC language submitted on December 2003, PFS would offer the following performance-based language as a substitute, "Footings placed in freezing climates must be designed and installed using methods and practices that prevent the effects of frost heave in accordance with the manufactured home design and the requirements of the Manufactured Home Construction and Safety Standards (Part 3280)."

- **Permanent Foundation Systems [21502, 21509 and 21511; 3285.314(a)]**
Section 3285.314 should state what is being referred to under this section. The described text of the proposed rule seems to be more in line with §3285.314(b). The first two sentences of this section are mainly commentary and provide no information on how or what to use when designing permanent foundation support systems for HUD Code homes. They should be deleted in their entirety. The first is in conflict with HUD's preemption for default states to not require more stringent requirements than that contained in the model standard. The model standard should make no mention of anything concerning how mortgage lenders or others can establish financing eligibility requirements for permanent foundations. This is for the financial institutions to decide and this standard needs to stay focused on the MHIA's premise, to provide a **model installation standard**. Financing options for the model standard are outside the scope of the MHIA and should be deleted.

The original MHCC recommendation stated the obvious. "Designs for permanent foundations (such as basements, crawl spaces, or load-bearing perimeter foundations) may be permitted to be obtained from the home manufacturer, or designed by a registered professional engineer or architect, and constructed in accordance with local building code requirements". This is the proper performance-based language for any section on permanent foundations.

Should the department still not finalize the MHCC language, below is performance-based language that can be used as an alternate, "The placement of a manufactured home on a permanent foundation must be in accordance with the state requirements, installed in accordance with their listing by a nationally recognized testing agency based on nationally recognized test protocol, or installation in accordance with the manufacturer's approved permanent foundation installation instructions; and in all cases based on the home's design and the load requirements of the Manufactured Home Construction and Safety Standards (Part 3280)." This is the performance-based language that the MHCC developed at its May 25, 2005 conference call. PFS agrees with this type of performance language if the original MHCC language submitted in December 2003 is not appropriate for federal regulations.

Permanent foundation requirements would be specific to the installation site in question, (see page 21509). With an approved state-based installation program, the LAHJ will require the permanent foundation systems to meet the local governing building codes. This has been the case for years and there is no compelling reason to change the current path. HUD's enforcement of an installation program in default states should provide the same. The MHCC draft provided the mechanism to cover this topic. It stated that ***when*** a permanent foundation system is contemplated, the design would need to follow accepted engineering practice, be design by the manufacturer or professional engineer, and in conformance with local governing building codes. This would seem appropriate to re-insert this language in §3285.314 to alleviate the concern.

It is not appropriate for the model (minimum) standard to require that manufacturers provide DAPIA-approved designs for permanent foundations, see page 21509. This should be an option to homeowners, if they so choose, but the manufacturer should only need to provide the design when selected. PFS clients can provide permanent foundations designs for homes and it is hoped that the model standard will do the same, but to make it mandatory in every instance is not necessary, especially when a large majority of HUD-Code homes will follow the conventional installation method of piers with ground anchor assemblies. A few PFS clients do not have engineering staff available to perform this task. Those companies use outside engineering consultants to provide their design packages. This would be an added extra cost to these producers for complying with a requirement that their buyers may not even wish to consider.

- **Ground Anchoring Assembly Corrosion Protection Requirements [page 21512; 3285.402]** HUD modified the MHCC draft standard with regard to galvanizing of ground anchors, anchor equipment and stabilizing plates. This section requires ground anchors to be zinc-coated in all instances. This deviates from the HUD Code [3280.306(g)] in that it requires anchoring equipment to have a resistance to weather deterioration at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz/ft^2. This would preclude other forms of known corrosion protection from being used in lieu of galvanized anchors. Stainless steel, epoxy coatings, and even mill galvanizing are acceptable methods of corrosion protection in the site-building industry.

  Also, not all ground anchor assemblies will require steel stabilizer plates, see §3285.402(b)(3)(ii). If a ground anchor assembly is tested to be listed or certified by the current MHCC Subcommittee/Installation, Ground Anchor Test Protocol currently under consideration, *uses an ABS stabilizer plate*, and passes all failure criteria for a certain soil classification, that design should be able to be listed as a certified anchor assembly under this section.

- **Blocking Configuration Concerns [page 21528; 3285.304 & Figs. A & B, page 21529]**
  PFS believes that subparagraph (b)(2) on caps should ***not*** allow "dimensioned lumber" to be used without specifying it be either hardwood or at the least Southern Pine. Figures A & B say "hardwood" for the cap. Also in Figure A, a 2" x 8" x 16" ***steel plate*** is shown, but surely that is not what is meant. In (c)(2), reference should be made that the shims should be driven from opposite directions. (PFS has seen two shims (ie a "pair") used one on top of the other in the same direction)

PFS Response to Questions

- **Seismic Zone Considerations [page 21500]**
  If seismic zones are to be considered in the future as a manufactured home design parameter, it is best that they be first introduced into 3280 and ***then*** mentioned in set-up manuals.

- **Vapor barrier tears [page 21501]**
  A limit should be places on ground vapor barrier tears and it should be none! 6 mil poly is very tough and can be placed without tearing it. It is too hard to quantify "excessive" or "minor."

- **Clarity of Tables & Charts [page 21501]**
  The tables & charts are clear enough, but editorially they need to be repaired. In several instances, small segments of paragraphs are isolated from the main body and can be very easily missed. PFS clients already have very comprehensive installation manuals, which contain at least as much data as the proposed installation standards.....some even go beyond the proposal.

- **Minimum Footing Specs [page 21502]**
  Footing design, including the amount and size of steel reinforcement should be left up to the design engineer. In some areas prescriptive minimums would go beyond locally accepted practices, model standards such as ACI or AISC should be referenced.

- **Hinged Roof Considerations [page 21504]**
  Hinged roofs have been installed for years by many manufacturers and there has never been a clear distinction between when an AC Letter is required and when it is not with regard to roof pitch. On-site flue installations are understood, but the roof pitch distinctions and/or lack thereof is inconsistent and/or simply left un-explained.

  The option of placing hinged roofs under the model installation standard would save considerable money with regard to IPIA inspection under the on-site completion rule, and considerable time under the AC letter process.

  A hinged roof should be treated as construction of the home's roof assembly and subject to the requirements of the HUD Code. Once these hinged roofs are placed, they would have to conform to the HUD Code. This would be evident for hinged roofs in all Wind Zones, and not just Wind Zone I as HUD has specified in the proposed rule. As long as a hinged roof, in any Wind Zone, under any condition complies with the HUD Code after installation, it should not be subject to either on-site completion or an AC letter. If the hinged roof after installation fails to meet the HUD Code, then AC letters should be required.

- **Accessory Building or Structure [page 21507]**
  The on-site construction of such accessory buildings in many locations throughout the country is the rule rather than the exception and to ignore this fact seems shortsighted. PFS believes that at the least, acknowledgement of their probably existence and a statement as to LAHJ is adviseable.

- **Model Specific Installations Plans [page 21508]**
  This should be left up to the manufacturer. Some will want to provide model-specific dwgs., especially tin the case of basement foundations or for "odd-ball" shapes, but most may not need extensive drawings for a routine set.

- **Soil Removal [page 21508]**
  Yes, it would seem like a good practice, although to specify a minimum depth might be either too little or excessive.....just say remove topsoil.

- **Model Standard Should Include the Pocket Penetrometer [page 21508; 3285.202]**
  The various methods to determine soil bearing capacity and classification have been deleted in lieu of accepted engineering practice. One such method, the pocket penetrometer, is a common method to determine soil bearing capacity. It also is accepted in many states throughout the country as an appropriate method. It seems reasonable to permit the LAHJ to accept any method they feel is adequate. Therefore, it is suggested that §3285.202(a)(1) be modified to permit the LAHJ to accept any method as follows: "*Soil tests*. Soil tests that are in accordance with generally accepted engineering practice; a pocket penetrometer or other method acceptable to the LAHJ; or".

- **Perimeter or Permanent Foundation Instructions [page 21509]**
  Manufacturers who design homes to be placed on these types of foundations should be required to provide DAPIA-approved drawings accordingly.

- **Proprietary Foundation System Testing [page 21509]**
  The MHCC should be allowed to develop a testing protocol which can be used to test proprietary systems but it should be separate from the Installation Standard. Once a product is tested to the approved protocol, it should be submitted to the states for approval for use within that state.

- **Manufactured piers [page 21509]**
  PFS believes that manufactured piers are designed to withstand certain loads and as long as the home manufacturer provides the loading at each intended pier location, if a proposed manufactured pier meets or exceeds that load, it should be acceptable to use.

- **Minimum Clearance under Homes [page 21510]**
  A minimum clearance under a home is required to install and inspect utility connections, bottom board repairs, etc. PFS believes that ***all*** of the area underneath a home should be accessible for that, and even if there are no utility connections in an area, bottom board repairs may still need to be made on-site.

- **Substantiation for Different Block Heights [page 21510]**
  PFS believes that there is plenty of precedent for single-stacked blocks up to 36" in height. Once you go above that, double stacking is required up to 80". Other combinations of pier heights due to an uneven or sloping site should be calculated which will probably involve stabilization devices or designs and possibly some mortared piers as well.

- **ABS Footing Pad Approval [page 21510; 3285.312(a)(3)]**
  ABS footing pads are currently being approved and used. With qualifying state-based programs, the state should determine the appropriate criteria for ABS pad approval. Status quo with how these materials are presently being approved for use in home installation should be maintained until an actual nationally recognized material/testing standard is developed.

- **Permanent Foundations [page 21511]**
  See comments above. A permanent foundation under a HUD-Code home should be subject to the same requirements as any modular, panelized or stick-built home under any LAHJ.

Conclusion

PFS feels that the "weak link" in delivering a durable, affordable and trouble-free home to the consumer has been for many years the installation of the home on the site. Countless "Field Investigations" for both PFS clients and non-clients alike bear this out. Manufacturers have been subject to heavy scrutiny and surveillance for years while the field operations by dealers and set crews have gone largely unchecked. An Installation Standard to alleviate this problem is badly needed and this should go a long way toward improving the situation. Let us hope that each of the states will set up and take part in the installation program so that consumers in their state will benefit from more regulated and professional set-up and installation procedures.

Sincerely,

Richard M. Reinhard, P.E.
Manager of Manufactured
Housing Operations

/RMR

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Porter, David

From: Jones, Berl

Sent: Tuesday, June 28, 2005 5:35 PM

To: william_w._matchneer_iii@hud.gov

Cc: Porter, David; Souza, Kevin; Hirsch, Michael; Hallstead, Carl; Goins, Ronald; McCarthy, Fran; Stouder, Sarah

Subject: Proposed HUD Model Home Installation Standards

Attachments: FEMA Comments to HUD Rule.pdf

Mr. Matchneer,

Please find our response to your request for comments concerning the proposed HUD Model Home Installation Standards. We will have a hard copy sent to you as well.

Thanks for this opportunity. We look forward to further discussion.

Berl

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101

FEMA

William W. Matchneer III
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Office of Manufactured Housing Programs
Room 9164
Department of Housing and Urban Development
451 Seventh Street (SW)
Washington, DC 20410

Hello Mr. Matchneer,

I am writing to provide comments relating to the proposed rule on Model Manufactured Home Installation Standards that your office recently published. We agree that standardization of the installation of manufactured homes is something that is appropriate, and we applaud your effort in addressing this need. I would like to request consideration of including language for addressing installations of manufactured homes for the purposes of implementation by the Federal Emergency Management Agency (FEMA) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, as amended, because of the potential impact it can have on FEMA's ability to provide temporary housing to eligible disaster victims.

Background

FEMA provides and coordinates disaster assistance to eligible victims of Presidentially-declared emergencies and major disasters. FEMA is authorized to provide housing under "Direct Assistance," which is the term we use to refer to the provision of readily-fabricated dwellings, such as travel trailers and/or manufactured homes. This assistance is considered temporary housing and may be available to eligible victims for up to 18 months. In addition, some disaster victims may purchase the manufactured homes to address their permanent housing needs.

Direct Assistance represents one of nation's most visible forms of disaster assistance. When providing this assistance, FEMA is working under very tight deadlines to get displaced people into housing. The implementation of Direct Assistance serves as the disaster victim's last housing alternative because it is only offered when other forms of housing assistance are not available to address the temporary housing needs.

Installations of manufactured homes represent one of the major challenges for providing temporary housing in the most expeditious and effective manner. During catastrophic disasters or large-scale incidents, challenges associated with providing safe, sanitary housing are amplified. This became very evident during the past year when over 20,000 temporary housing

units (manufactured homes and travel trailers) were used as temporary housing for disaster victims in Alabama, Florida, Kentucky, West Virginia, Ohio, California, and Indiana.

Potential Impact

During disasters FEMA is often required to provide and install temporary housing units within seven to ten days after the sites are identified (including obtaining appropriate permits). Although the proposed rule addresses installations of new units, there is no consideration of emergency or temporary installations under the Stafford Act. FEMA is concerned that the following issues could delay our ability to accomplish installations in an emergency environment:

- Subpart A-General
    - New Units Only. The proposed rule focuses on more permanent and new unit installations. Although FEMA does use new units at times, there are instances when units refurbished by FEMA are used on multiple occasions. Guidance is needed for installing new and used manufactured homes under emergency conditions.
    - Inspections and State Installation Program. It is not clear how the inspections of the installations and the certifications of the installers will be handled. We recommend adding additional language to clarify certifications and inspections related to installations under emergency and disaster declarations.
- Subpart C-Site Preparation.
    - We recommend revising the rule to clarify whether soil tests are needed under emergency conditions. (See Subpart D-Foundations).
    - We recommend revising the rule to clarify whether vapor retarders under emergency or disaster declarations are needed due to the temporary nature of FEMA installations under the Stafford Act. During disaster recovery activities there may be shortages of supplies.
- Subpart D-Foundations. We recommend adding language for to identify the standard soil bearing capacity for installations of manufactured homes when supporting Presidentially declared disasters.
- Subpart J-Recommendations for Manufacturer Installation Instructions. Clarification is needed regarding who will certify the installers and the process for certification in Stafford Act circumstances. There are usually major shortages of installation contractors.
    - We recommend standardizing the certification process and including information for operating under the Stafford Act. This would also allow these workers to

receive their State licenses under the emergency provisions established by the State and HUD.

- Experienced contractors have a very difficult time responding to support FEMA's housing missions. Many of the local or state contractors have previous jobs prior to the incident and are not available to participate or support the mission. There is not a standard temporary emergency certification process for emergency temporary housing, and we recommend that one be established.

- Standardizing or providing local authorities with general guidance or process for emergency permitting under the Stafford Act. This becomes a major issue due to the lack of standard emergency housing permits and procedures. Permitting procedures vary among neighboring communities which leads to difficulty associated with installations.

Conclusion

With the expansion of FEMA's role to support all hazards, the use of manufactured homes serves as a viable option to support the various temporary housing operations. We are requesting the inclusion of Stafford Act provisions in the final rule to establish standardized the installations of manufactured homes under Presidentially declared disasters. The inclusion of the Stafford Act provisions may also provide the States and/or municipalities adopting their own standards with a uniformed process for installing manufactured homes units within disaster situations. The absence of these provisions in the final rule potentially jeopardizes FEMA's ability to efficiently provide temporary housing assistance to disaster victims in an expedited manner.

FEMA must be prepared to expeditiously and effectively manage and support multiple concurrent missions with various organizational and operational priorities. Thank you for your assistance on this matter. If you have any questions about these comments, please contact either Michael Hirsch, the Individual Assistance Branch Chief, at (202) 646-4099 or David Porter at (202) 646-3883.

Sincerely,

Daniel A. Craig
Director, Recovery Division
Emergency Preparedness and Response