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

Re: Federal Register of April 26, 2005
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Model Manufactured Home Installation Standards; Proposed Rule

To whom it may concern:

The International Code Council, Inc. (ICC) appreciates the opportunity to submit comments to HUD on the proposed rule that would establish new Model Manufactured Home Installation Standards for the installation of new manufactured homes and would include standards for the completion of certain aspects necessary to join all sections of multi-section homes.

ICC is a private, not-for-profit organization whose mission is to provide the highest quality codes, standards, products, and services for all concerned with the safety and performance of the built environment. The members of ICC include building and fire code officials and inspectors, and others intimately involved in the development and enforcement of building construction regulations at the federal, state and local levels of government, as well as those affected by the codes such as the trades. With committees of volunteers and a staff of more than 300, the ICC, a 40,000-member association dedicated to building safety, develops the codes used to construct residential and commercial buildings, including homes and schools. The majority of U.S. cities, counties, states and federal agencies that adopt codes choose building safety and fire prevention codes developed by the ICC. Currently, the International Residential Code (IRC) is used in 45 states, the International Building Code (IBC) is used in 45 states and by most federal agencies that enforce building codes. Federal agencies such as the U.S. General Services Administration, U.S. Department of State, U.S. Department of Defense, National Park Service, U.S. Forest Service, Architect of the Capitol and the U.S. Veterans Administration have found it desirable to use the IBC in order to accomplish their agency mission with excellent results. Following are our comments on the proposed rule:

General Comments

In reviewing this proposed rule there is reference made to an upcoming separate rulemaking by HUD dealing with establishment of an installation program and associated inspections. It is difficult to comment on this proposed rule without seeing these other regulations that are forthcoming. This seems analogous to publishing a building code full of technical requirements and indicating enforcement, conformity assessment, etc. issues would be dealt with at a later time.

We find it difficult to understand how this proposed rule will work with state and local codes and code enforcement programs. HUD regulates the design and construction of the manufactured home (the box) and through those regulations the box is approved at the national level and shipped to a site. State and local government have no control over the design and construction of the box (and it appears there is some minor completion of the box on site such as joining multiple sections, installing manufacturer supplied cross over ducts and pipes, etc.).

Who controls the installation of the box on the site? Currently, state and local government have control through zoning and building, mechanical, plumbing, fuel gas, etc. codes, whether on a permanent site built foundation or on a manufactured home “set up”. In short what is done in the factory or comes with the home from the factory is under the HUD code and what is done on site with respect to installation is under state or local code. This is for new installations of new boxes. For modifications to existing boxes we believe that state or local code applies to those modifications. For new installations of existing previously installed boxes we also believe state or local code applies.

The proposed rule, “model installation standards” (MIS) is, to some degree, analogous to a model code such as the IRC. The difference is that the HUD MIS is essentially a mandatory minimum standard that must be followed for all installations. Where there is no state or local code then the installation is governed by the MIS and the installer of the box is responsible for compliance with the MIS. There is no mention in the rules concerning enforcement or penalties associated with non-compliance. Where there is a state or local code, that code must be determined to meet or exceed the MIS. If it does, the state or local code is accepted and it can continue to be implemented and enforced as it has been in the past (e.g. the installer pulls a permit, gets inspected and gets approval from the state or local agency responsible). The obvious intent of the proposed rule is to ensure some minimum level of performance associated with installations in areas with no codes or limited codes.

We urge HUD to consider the following questions when it issues the proposed rules for the manufactured homes installation program and associated inspections:

- Who decides if a state or local code meets or exceeds the MIS and what is the basis for the comparison?
- Is the comparison simply on technical matters or will it also include administrative and enforcement issues? (e.g. more rigorous enforcement of a less standard may provide for better performance than little enforcement of a more rigorous standard)
- Apparently site-built permanent foundations are not within the scope of the rule. So in areas with a state or local code, such installations can continue without addressing HUD installation issues and where there is no state or local code the status quo is maintained?
- The MIS apply to new home installations. Are new installations of existing homes covered and if not, why?
- The MIS apply to site installed appliances and equipment, conversions of certain equipment, etc. Certainly items shipped with the new home and intended for installation as part of the set up should be covered as if they were installed in the factory and subject to HUD rules. For items that do not fall within that scope, such as an add-on air conditioner, wood stove, etc. that would typically come under the authority of state or local code officials, how can HUD include them in the MIS? In so doing, it appears HUD has increased the scope of the comparative work that a state or local must do to show their codes meet or exceed the MIS.
- With respect to add-ons, such as an air conditioner, when does a new home/new installation covered by the MIS become an existing home/existing installation that is not subject to the MIS but is subject to state and local codes? 1 day, 1 week, 1 month?

In summary, consider multiple homes side by side in a community. Site built homes are constructed to state and/or local codes, modular homes are constructed to state and/or local codes, and manufactured homes are constructed to the HUD code plus an installation per the more stringent of the MIS or state or local code. We recommend that the construction and installation standards, as well as their implementation and enforcement, be comparable. This is for new homes and new installations. Consider the increased complexity of scenarios for repairs, additions, relocation, etc. associated with existing homes. We believe additional confusion will occur unless the rules can be made to clearly fit within the existing state and local regulatory infrastructure.

Specific Comments

- 21499 first column, it is noted that manufacturers must include installation instructions with each new home that provide protection that equals or exceeds the MIS. Such instructions would be DAPIA approved. It also indicates that states that want to operate an installation program must adopt installation standards that are at least equal to the MIS. In supplying a home with installation instructions in a state with a state program it is very likely those instructions will not coincide with the state regulations. Obviously if there are multiple state programs then the installation instructions could easily comply with the MIS but differ from any or all state rules. How will this discrepancy be addressed and what will take precedence, the state rules or the DAPIA approved installation instructions meeting the MIS?
- 21499 second column indicates that a state with a state program will provide for close up inspections. What if a state has no close up inspection program, will HUD do that? Will the lack of such an inspection (maybe it would be at the local level and not the state level) cause an otherwise acceptable state program to be deemed as not meeting the MIS equivalency test?
- 21499 second column, reference is made to an upcoming separate rulemaking by HUD dealing with establishment of an installation program and associated inspections. It is difficult to provide logical comment on the proposed rule in question without seeing these other regulations that are forthcoming. They go hand in hand.
- 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. How can one comment on technical issues when the rules associated with their implementation by a state are not available? It is noted that if states do not establish standards with an equal level of protection to the MIS they will not have qualifying programs. It also indicates that in such states HUD will regulate and enforce installations. How will HUD do that and with what resources. Will this action be such that states with programs may discontinue their programs to save money and in so doing leave enforcement up to HUD? In so doing will the effect of this rule then be a lesser degree of protection for residents?
- 21500 third column, the MIS should address seismic safety. 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 MIS design loads different than or comparable to the IRC design loads? This should be researched and addressed. The MIS 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 MIS? This also raises a huge question – the issue of the MIS compared to state and local codes can be considered today at a static point. How will all this be addressed over time as the MIS change and state and local codes change, all on different timelines?

- 21501 first column, mentions the space under the home. This is essentially no different than a crawl space and it would seem on that basis more logical to reference the IRC than putting different provisions in 24 CFR under HUD. As noted above, if an existing home were moved to a new installation it would appear state or local code would govern and the MIS would not apply. On that basis why not simply reference the IRC from the beginning for all installations?
- 21501 third column references 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 not include any criteria (in this case alternative foundation designs) that cannot be evaluated on the basis of some existing standard or recognized protocol. This is possibly an example of the MIS rules not being ready for implementation and holding them for further completion and subsequent republication for comment when the proposed rule on state operation of programs is released for comment.
- 21502 third column, mentions that designs may also be subject to local code requirements. This seems confusing. As the rule reads, states can secure acceptance for their rules as meeting or exceeding the MIS (although nothing is provided to explain 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 MIS. The imposition of local criteria on top of the MIS does not seem logical in this situation unless the case is in a state with no state code and the MIS would then apply. Does a local have the ability to show they meet or exceed the MIS or can only a state do that for a state program?
- 21503 third column, it is noted that appliances and other add-ons would be permitted to be installed on site. As noted above many of these are 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. Of interest, as noted above, when is a new home and existing home and such items then under state or local control anyway because the MIS does not apply? It is also noted ventilation requirements are provided. A review of those indicates they are consistent with the IRC. Why not simply reference the IRC instead of writing another document that then has to be maintained, updated, referenced, etc.?
- 21505 second column, mentions under authority that certain aspects of home installation were best retained for the LAHJ. Our review of the rule finds very few aspects that are not part of the MIS and would remain with the LHAJ. Further, we could not find the referenced

section on HUD recommendations for manufacturer's installation instructions.

- 21505 third column, again mentions HUD's installation program. How can one logically and appropriately comment on the technical standards without knowing the other details associated with the program and intended implementation of the MIS? It is also mentioned the MIS are applicable only to the first or initial installation. A "move and reinstall" would not be covered by the MIS (unless state or local regulations addressed such situations). How does this distinction apply to retrofits, additions, optional appliances, etc.? One could assume the MIS would only apply to those items that are associated with that first installation and after the installation is complete then they would not come under the MIS but under state or local codes (e.g. installed 2 weeks after the home was installed and approved). HUD also noted that joining of sections has not been fully enforced by state or local agencies. Is this a state or local responsibility? If not then the wording appears to cast a bad light on the states and locals for something for which they are not responsible. HUD also lays out responsibility for manufacturer, retailer and installer accountability. Who checks for what aspect of compliance, HUD, state, local?
- 21507, third column, indicates that permits are outside HUD's authority. 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. This relates to the issue of enforcement, or lack thereof, associated with the MIS.
- 21508, third column, mentions soil testing. Why not reference the IRC or state or local code? It is also noted that HUD would not allow a LAHJ from establishing a less stringent vapor retarder standard. We assume this would be relevant only where the state or local wants acceptance of their rules as meeting or exceeding the MIS. That being the case, why mention this particular item as one would assume all aspects of the state or local rules must measure up to the MIS?
- 21509, first column, it is noted that in some states HUD will operate the installation program. How? Who will do it? By what administrative mechanisms? In what states?
- 21511, first column, indicates an allowance for LAHJ to establish frost depth rather than put that in the MIS. The IRC does this so why can't the MIS? This would appear confusing in that state and local rules must be compared to the MIS. In this case, since the MIS has no criteria, anything a state or local rule has on this issue would be acceptable.
- 21513, second column, HUD notes that it revised the ventilation requirements to be consistent with the model building codes. This is good for consistency but raises the issue, why not simply reference the model codes in lieu of creating another document that has to updated and maintained?

- 21514, second column, HUD notes that fuel oil supply tanks and systems installed at the site are not within the scope of HUD's authority. Why not and what makes fuel oil different from propane, site installed air conditioning systems, etc.? This further reinforces the "cloudy" nature of determining what is within HUD's authority, what is not, and what remains under the control of state and local officials. Without a clear and logical delineation for all home installations, not just new ones, it will likely be more difficult to explain to residents, regulators, installers, manufacturers, dealers, etc. who is responsible for what not only as to installation but with respect to liability if and when something goes wrong with an installation.
- 21515, first column, refers to manufacturer installation instructions with respect to utilities. If, as HUD says, these are generally covered by the LAHJ, and assuming LAHJ requirements vary, how can any meaningful installation instruction cover the installation with respect to utilities? At best the installation instruction will say "for utility connection requirements consult with the serving utilities". Do we really need a HUD regulation on home installations and associated processes and procedures to convey this message to installers and residents?
- 21516, first column, HUD requests comments on the effort associated with checking installation instructions. It is assumed that installation instructions would vary by manufacturer and specific model. As such the suggested number of respondents (which is assumed to be manufacturers) and responses per respondent (which is assumed to be models) seems very low. The hours per response (which is assumed to be to review each set of installation instructions seems high unless it considers back and forth communication, review and review of issues between HUD and the manufacturer). 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. It is important to point out that if HUD does not intend to take action to ensure the installation instructions conform to the MIS and are effectively satisfied in the field then there is no real need to collect this information. HUD also asks if the proposed rule imposes a mandate on state or local government. However, the proposed rule does not indicate how it would impact federal agencies such as the National Park Service, FEMA or DoD Services who are purchasers and installers of manufactured housing for federal purposes. Since the proposed rule does not address the regulations establishing an installation program it is impossible to determine if this rule, as part of a larger program, imposes any mandates on state or local government.
- 21516, second column, HUD states 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. Even the proposed rule, in

establishing a MIS that states must meet or exceed, will impose an additional burden on states by having to do comparative studies of their rules and the MIS and then engage in communication and deliberation with HUD on their 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.

- 21517, first column, again HUD mentions an upcoming installation program establishing procedural and enforcement regulations. As the MIS criteria are tied directly to these regulations it is impossible to provide complete and meaningful comment on the MIS rule without being able to concurrently review and comment on the other regulations.
- 3285.1 (a) (refers to section numbers in the proposed rule), covers "applicable states". What is an applicable state? No definition is given and one can only assume it means states where there is no approved state program. Without knowing if a state program that exists now is OK or not, how can a state know if it is an "applicable state" and in that context develop meaningful comment on the proposed rule?
- 3285.1 (a) (1), says states that choose to do their own program must implement standards that meet or exceed the MIS. This appears to be preemptive in nature, when previously in the proposed rule notice HUD talked about not preempting states and not imposing additional burdens on the states. Who determines if a state program meets or exceeds, by what litmus test, what procedures, etc.?
- 3285.1 (a) (2), says in applicable states the MIS serve as the minimum standards for home installations. Who will do the enforcement, how will the MIS be enforced, what penalties are there for non-compliance, etc.?
- 3285.1 (b), says the MIS should not be construed to relieve manufacturers and others from complying with applicable codes, ordinances, and regulations. If the state or local does not meet or exceed the MIS then it would seem the MIS would apply. This provision would appear to require conformance with those codes anyway. For instance the only thing a locality might impose on homes is conservative provisions in flood hazard areas. As proposed the MIS would apply but then that local regulation with respect to flooding would preempt the MIS related to flooding? If this is the intent then the situation will not likely be either MIS as a foundation or a state rule that meets or exceeds all of MIS but a mix-match of intermediate scenarios each time there is a state or local rule covering anything related to a home installation.
- 3285.1 (c), 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 MIS rule, etc.? It further says in states without an approved program HUD will implement and enforce the MIS. How,

what is the process, will HUD do that even if a locality has a program for installations, etc.?

- 3285.1 (d), indicates that homes on permanent site-built foundations with certain manufacturer certification are not subject to the proposed rule. So a home installation in a locality with an installation standard will be preempted and covered by the MIS rule but the provisions in that locality applicable to a site-built "permanent" foundation would still apply. This apparently recognizes that site-built permanent foundations under state and local codes are OK (this assumes all localities have such codes) and those same state and local codes for non-permanent foundations are not getting the job done and HUD needs to step in. This does not make sense unless there is a significant difference between permanent and non-permanent foundation requirements and their administration and enforcement.
- 3285.2, requires installers to follow the DAPIA approved manufacturers installation instructions for aspects covered by the MIS. This assumes that in spite of the instructions, which are assumed to track with the MIS, that state or local codes in "non-applicable states" would apply regardless of the installation instructions. This kind of renders the instructions moot in such states and raises the issue – how will the installer know how to adjust the instructions to satisfy codes in such states. In applicable states those instructions would in essence be the manner in which the MIS were implemented, but how will those instructions deal with local codes etc. that under 3285 (b) must still be addressed above and beyond, or potentially in conflict with, the installation instructions. It is very likely that, in spite of the availability of nationally applicable MIS compliant instructions that would ideally be applied uniformly across the U.S., there will be numerous instances where other requirements at the state or local level will conflict with or preempt the instructions. This is likely to cause considerable confusion within the industry, especially where installers operate in multiple jurisdictions or manufacturers ship to multiple states.
- 3285.4, references numerous codes and standards. Why not reference the IRC? ASHRAE is "refrigerating" not "refrigeration". There is a more recent edition of the ASHRAE Fundamentals Handbook. UL 181 has been separated into 181, 181 A and 181 B.
- 3285.5, the definition of crossover refers to heat ducting. What about cooling? It is suggested that heat be replaced with "ducting associated with HVAC systems". As defined "installation instructions" are very specific as to providing details on installing the home per the MIS. This leaves no leeway for covering states that are "non-applicable". What does one do with the installation instructions in a state that is "non-applicable"? Installation standards are defined as "reasonable specifications". 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…." The

definition also refers to local responsibilities in such a way that if they are within the coverage of the MIS then they no longer have authority and if outside the coverage of the MIS they do. LAHJ also includes states. This seems to conflict with other provisions in the rule and means that a state or local that does not have said requirements, even though they may be identical to the MIS would not be considered a LAHJ.

- 3285.101 (c) suggests a LAHJ use certain studies to determine the BFE. This is permissive. What if a local does no do this? If this is up to local government then it may also be difficult for a state program to show it meets or exceeds the MIS. Can a local show it meets or exceeds the MIS or is that an option only open to state programs covering all installations?
- 3285.102 provides design requirements. What about radon issues and seismic loads. Both impact homes and guidance on establishing appropriate criteria on these issues should be addressed in the MIS.
- 3285.201 uses the term “foundation” but that term is not defined. What is the foundation?
- 3285.202 (a) should be revised to delete “against the wind”. It should not matter what issues are to be addressed for soil classification and bearing capacity. There are certainly other loads like flooding that could be included. The issue is determining type and capacity.
- 3285.203 (a) should be revised to delete all text after “under the home”. The primary message is to provide drainage under the home. The reasons for doing this are not relevant. Also how would one determine for instance if water under the home would or would not create problems with door and window operation, buckling of walls, etc.?
- 3285.204 (a) the purpose of a vapor retarder is to reduce ground moisture transmission to the home. That need not be stated in the rule. Revise to read “…vapor retarder must be installed…”
- 3285.204 (c) (1) should also require the overlapping be sealed with adhesives as in R406.3.2 of the IRC. It should be noted that many of the provisions in the rule are essentially the same as the IRC and as such one wonders why the rule could not simply reference the IRC for those items already covered in the IRC.
- 3285.204 (c) (3) should be deleted as it is subjective and unenforceable.
- 3285.312 (b) (1) (i) should be revised by changing “and” to “or” as (1) refers to either of the following (e.g. (i) or (ii).
- 3285.312 (b) (3) should be revised to read “…permitted when installed in accordance …”
- 3285.314 (a) essentially says 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 MIS. 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 MIS? What is the basis of the comparison? Is the comparison just technical or does it also include administrative and enforcement activities (e.g. a better code or standard with no enforcement may provide lesser protection than another standard or code that is enforced)? If the rules do not apply to homes on permanent foundations then how can the MIS then apply to them if they do not provide equal protection.

- 3285.314 (b) defers to a registered engineer for a permanent foundation design (actually only anchorage and foundation support) when there is no local code or manufacturer installation instructions covering such installation. As noted above 3285 does not apply to homes on permanent foundations. In addition if under 3285 (a) the installation is to provide equal protection to that provided by the MIS then it would seem a requirement for the engineer to address only anchorage and foundation support would not likely meet or exceed the protection provided by the MIS. This and the comments above highlight inconsistencies in the rule with respect to homes on permanent foundations, noting the term permanent foundation is not defined and in the past has been the source of considerable debate within HUD.
- 3285.315 (a) refers to foundation design in certain snow load conditions. The term foundation is not defined and although 3285.315 is not applicable to permanent foundations, in that it follows 3285.314 on such foundations will cause confusion. 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. If the intent is to cover permanent site built foundations then the comment above concerning their not being within the scope of the rules applies.
- 3285.401 (a) 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 a metric by which the degree to which a home is level can be measured and expressed. Without this 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.
- 3285.401 (b) refers to the design of alternative foundations using the design loads of the FMHCSS. In the case where a home installation is subject to state and local code such installation would be subject to the design loads applicable and as adopted by the state or local government. Are the FMHCSS design loads generally the same or comparable to those at the state or local level? If not and they are generally less then one could argue the MIS would not provide

equivalent protection. Of interest, if the home were on a site built permanent foundation it would not be covered under the MIS and be subject to state and local code while that same home placed on a non-site built foundation would be covered by the MIS and possibly have lesser protection against wind where the state or local design conditions and FMHCSS differ.

- 3285.402 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. The lack of specific test standards and protocols in the rule increases the probability that while all anchors will be determined to satisfy the load capacity specified in the rule that the actual performance of different anchors under the same conditions will vary greatly. This affects the ground anchor spacing provided in the rule because it is based on an assumed anchor capacity stated in the rule that is verified pursuant to "a nationally recognized protocol".
- 3285.402 (b) (3) (ii) insert "be" between must and zinc.
- 3285.405 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 MIS and state and local codes be performed with respect to this issue?
- 3285.406 requires the installation to be capable of resisting the loads associated with the design flood and wind events. It is not clear from the rule if those are to be considered separate events or the associated loads combined. Flooding and wind can and do occur simultaneously and their loading must be considered in the aggregate. For instance scour associated with flooding will affect the forces on the support system and anchors. Flooding, as previously noted, will also change the capacity of the soil and the ability of anchors to resist forces from wind. For these reasons the rule must be clarified to read "…must be capable of resisting the combined loading associated with the …"
- 3285.503 provides that comfort cooling systems that are not provided and installed by the home manufacturer be installed per the appliance manufacturer installation instructions. This conflicts with other standards and model codes in that they provide additional criteria for safety, accessibility for service and performance. It also sends a message that the permitting and inspection of such installations is not necessary. Where a state or local code has been determined to meet or exceed the MIS this would not be an issue as that state or local code would apply. It is not clear if local government in states without a state code can apply for equivalency and it is assumed only states can apply with respect to state codes. On that basis this provision will create significant confusion and conflict with local codes in states without state codes. For the sake of uniformity, safety, etc. it is

recommended that the rule be revised to refer to the IRC, which does refer to the installation instructions while providing additional criteria to ensure safety and performance.

- 3285.503 (1) (i) (A) delete the words “for proper operation an energy efficiency” because it is not necessary to state the reason for a requirement in a rule. The rule goes on to refer to sizing of systems “closely” to the heat gain and then refers to calculation of the sensible heat gain. What about latent heat gain? How is closely to be determined? If closely is within 5% up or down of the load then, while meeting the MIS, some systems will be undersized. It is recommended that the rule use text from ASHRAE and other energy standards that first requires the calculation of the design cooling load, provides the standards by which such load is calculated and then essentially require the equipment chosen to be the next size available that meets that load (e.g. if the load is calculated at 31,000 BTUh then the next size available (e.g. 36,0000 BTUh) would be chosen.
- 3285.503 (1) (iii) 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 would be dealt with pursuant to state code, which is likely to be the IRC. If on a permanent site-built foundation then it is assumed since the rules do not apply to such installations then this criterion would not apply. For installations where the MIS will apply as enforced by HUD, how will enforcement take place? What penalties will be imposed for non-compliance? As the installation of any air conditioner add-on is covered appropriately by the IRC and manufacturer instructions it is recommended that the MIS, to be consistent with state and local codes it is likely to defer to, reference the IRC and manufacturer instructions with respect to such add-ons.
- 3285.503 (2) 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 if installed in a home, manufactured or site built. Those criteria are found in the IRC.
- 3285.503 (3) although not common, what about evaporative coolers that are not roof mounted? As previously noted the rule should simply refer to the IRC in the absence of state or local codes. With respect to (1), (2) and (3), the parent subsection (a) refers to equipment not provided and installed by the home manufacturer. In applying to new home installations, as stated in the scope of the rule, one assumes these equipment provisions (air conditioning, heat pump, and

evaporative cooler) apply to new installations when initially installed. Is that a correct assumption, as it is not really clear in the rules when such add-ons would not be covered by the MIS. Do the MIS apply when associated with the initial installation? One week after installation? One month after installation? One year after installation? This needs to be clarified. As previously noted the lack of consistency on the issue of cooling equipment add-ons with respect to technical requirements and administration of the rules between manufactured homes on non-permanent or permanent foundations, modular housing and site built homes, whether new, slightly new and getting add-ons or somewhat older and getting add-ons needs to be addressed.

- 3285.503 (b) applies to fireplace and wood stove chimney and air inlet "add-ons". What about the installation of the wood stove or fireplace itself. Can't that be an add-on and should the installation not also be covered as discussed above for cooling equipment add-ons.
- 3285.503 (c) covers venting of heat producing appliances. There are no criteria for sizing of the vents or their materials or supporting structure. As written a dryer vent could be used to vent a wood stove as long as the vent carried the products of combustion to the exterior of the home. It is recommended that the MIS refer to the IRC and IFGC to address venting of heat producing appliances.
- 3285.503 (d) what about location of exhausts with respect to the BFE?
- 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.
- 328.505 covers crawl space ventilation. The provisions are intended to mirror Section R408 of the IRC but miss some important criteria. For instance the rule does not address operable louvers. Why not reference the IRC directly instead of creating duplicative provisions that due to the rulemaking process are likely to become further separated over time from the IRC as it is updated every 18 months based on new research and evolving technology.
- 3285.601 refers to field assembly of certain systems. It is assumed HUD intends to refer to manufacturer supplied and shipped loose duct systems and recommends the rule be so modified. As presently written any loose duct is covered by the rule.
- 3285.603 (d)(1) and (2) the last three words should be deleted. What is "normal occupancy"? Is the term even relevant? As written then the rule would not apply when there is "abnormal occupancy"? The intent is to protect pipes from freezing and the rule should so state without any qualifications.
- 3285.605 (a) refers to the LAHJ possibly requiring a pressure regulator. While appropriate, this is an interesting precedent set in the rules. The rules are portrayed as applying to installations when there is no state code that provides comparable protection. This suggests a

clear line of authority. In states approved by HUD then the state rules apply and in other instances the MIS apply with HUD as the enforcement authority. In this instance HUD is applying the MIS but then automatically deferring to a state or local government or utility (LAHJ) and allowing them to impose additional provisions. Why not do that for the entire rule? Why not simply reference a voluntary sector standard such as the IRC and other relevant standards as a minimum baseline instead of developing an entirely new set of criteria that must be updated and maintained and will likely fall out of sync with voluntary sector documents over time?

- 3285.606 (a) refers to duct sealants. HUD should note 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. HUD should review the IRC, IMC and other industry standards such as UL 181A and 181 B for additional guidance. This is a good reason to simply reference the IRC for duct connections, in that consistency with state and local codes will be ensured, even in areas where there are not codes and HUD is the enforcement authority. If the intent is to establish a reasonable and reliable baseline for installations in the HUD rule then it would be logical to assume that HUD, if not referencing such codes and standards directly, would develop criteria that are at least comparable.
- 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. How does one define, measure and express “weatherproof”? HUD may want to refer to related text on sealing of cracks, voids etc. in the IRC; another reason to refer to the IRC.
- 3285.801 (d) what is “exterior sealant” and what standards would be used to label such sealant? In that the holes are on the roof as opposed to other areas that might not be subject to rain or snow, one would assume the rule could be a little more specific as to acceptable sealant.
- 3285.901 (a) indicates that the planning and permitting processes and utility connections are outside of HUD’s authority. Interestingly HUD in the rules does provide standards for some of these items (e.g. utility connections, conformity assessment issues relevant to permitting and approval, etc.). Then HUD is going to implement and enforce these rules. It would seem more logical for HUD to participate with the voluntary sector and work with state and local government and others to achieve their desired goal of “greater protections for the residents of manufactured homes” than establishing a parallel, duplicative and possibly conflicting set of rules that HUD will implement and enforce in areas where it is determined existing regulations do not measure up to the MIS.

- 3285.905 (d) refers to conversion of gas appliances. Why on a new installation would there be a conversion? If this refers to conversion between natural gas and propane because the fuel source is not known at the point of manufacture then where in the rules are the provisions for propane tanks, lines, etc.? Note again the rules refer to the LAHJ. This suggests that HUD will defer to the LAHJ on certain issues; so why not all installation issues? What if there is no LAHJ, how will HUD deal with this? This is an excellent case for simply referring to state or local codes and in the absence of such codes the IRC.
- 3285.906 (a) and (c) refer to NFPA 31 first and then to applicable local regulations. Both statements address the same issues but in potentially different ways. If the MIS is intended to apply where there are no acceptable state or local codes then why refer to local regulations in the MIS? The reference to NFPA 31 is appropriate and would be picked up via the IRC. This is another example of why the rule should simply refer to the IRC and in so doing establish a minimum level of protection to be applied in areas without codes.

Thank you again for the opportunity to provide comments. If we may be of further assistance, please contact me 703-931-4533, ext 6246 or by e-mail at rkuchnicki@iccsafe.org.

Sincerely,

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