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November 13, 2001

FILED²

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Missouri Public
Service Commission

Honorable Matt Blunt
Secretary of State
600 West Main Street
Jefferson City, Missouri 65101

ATTENTION: Administrative Rules Division

I do hereby certify that the attached are accurate and complete copies of the Order of Rulemaking lawfully submitted by the Missouri Public Service Commission for filing this 13th day of November, 2001.

Rule: 4 CSR 240-124.045 -- Anchoring Standards

Statutory authority: 700.076, RSMo 2000

Missouri Public Service Commission Case No.: MX-2000-449

If there are any questions, please contact: Bruce H. Bates, Associate General Counsel
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BY THE COMMISSION

Dale Hardy Roberts
Secretary/Chief Regulatory Law Judge

Administrative Rules Stamp

MATT BLUNT
Secretary of State
Administrative Rules Division
RULE TRANSMITTAL

A "SEPARATE" rule transmittal sheet must be used for EACH individual rulemaking.

A. Rule Number 4 CSR 240-124.045
Diskette File Name 11/13/01 Final Orders of Rulemaking
Name of Person to call with questions about this rule: Bruce H. Bates
Context _____ Phone 573/751-7434 FAX 573/751-9285
Data Entry _____ Phone _____ FAX _____
Interagency Mailing Address 200 Madison St., P.O. Box 360, Jefferson City, MO 65102

Statutory Provision for Rulemaking
Authority 700.076 Provide Most Current RSMo Year 2000
Date Filed With the Joint Committee on Administrative Rules Exempt per Sections 536.024 and 536.037, RSMo Supp. 1998, and Executive Order No. 97-97 (June 27, 1997)

B. CHECK, IF INCLUDED: FORMS, List by Mo-Form Number, # of Pages
☒ Cover Letter _____
☐ Affidavit _____
☐ Cost Statements _____
☐ Public Entity Fiscal Note OTHER _____
☐ Private Entity Fiscal Note _____

C. RULEMAKING ACTION TO BE TAKEN
☐ Emergency Rulemaking, Must Specify Effective Date
☐ Proposed Rulemaking (New Rule or Amendment or Rescission of Existing Rule)
☒ Order of Rulemaking (MUST complete page 2 of this transmittal)
☐ Withdrawal (Rule, Amendment, Rescission or Emergency)
☐ Rule Action Notice
☐ In Addition

D. SPECIFIC INSTRUCTIONS: In this space indicate any special instructions (e.g., specify publication date preference, identify material incorporated by references, etc.)

E. ORDER OF RULEMAKING: Rule Number 4 CSR 240-124.045

1a. Effective Date for the Order

Statutory 30 days X or later specific date _____

1b. Does the Order of Rulemaking contain changes to the rule text?

YES X NO _____

1c. If the answer is YES, please complete section F. If the answer is NO, Stop here.

F. Please provide a complete list of the changes in the rule text for the order or rulemaking, indicating the specific section, subsection, subparagraph, part, etc., where each change is found.

(Start text here. If text continues to a third page, insert a continuous section break and, in section 3, delete the footer language that appears at the bottom of this page.)

Please see attached comments.

NOTE: ALL changes MUST be specified here in order for those changes to be made in the rule as published in the *Missouri Register* and the *Code of State Regulations*.

Add additional sheet(s), if more space is needed.

Title 4 – DEPARTMENT OF ECONOMIC
DEVELOPMENT
Division 240 – Public Service Commission
Chapter 124 – Manufactured Home Tie down Systems

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SECRETARY OF STATE
ADMINISTRATIVE RULES

ORDER OF RULEMAKING

By the authority vested in the Missouri Public Service Commission under section 700.076 RSMo 2000, the Commission adopts a rule as follows:

4 CSR 240-124.045 Anchoring Standards is adopted.

A notice of proposed rulemaking containing the text of the proposed rule was published in the *Missouri Register* on July 16, 2001 (26 Mo. Reg. 1447, 1448, 1449). Changes have been made in the text of the following proposed rule and reprinted here. The proposed rule becomes effective thirty days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: Written comments were submitted by the Missouri Manufactured Housing Association (Association). There was no public hearing held. The Association submitted comments concerning the following proposed rule: 4 CSR 240-124.045.

COMMENT: 4 CSR 240-124.045 (1)(C), defines anchoring systems as follows: "Anchoring systems means a combination of ties, anchoring equipment, and ground anchors that will, when properly designed and installed, resist overturning and lateral movement of a the manufactured home from wind forces". The Associations maintains that the use of the words "ground anchors" is too restrictive, and further maintains that the use of the word "ground" in the definition creates an unnecessary limitation. The Association suggests that the word "ground" be deleted from the definition.

RESPONSE AND EXPLANATION OF CHANGE: The Commission agrees and proposes that the word "ground" should be deleted as suggested.

COMMENT: 4 CSR 240-124.045 (6)(A), discusses the performance of anchors and states "Failure shall be considered to have occurred when the connection between the tie and anchor moves more than two inches vertically or three inches horizontally when pulled at an angle of forty-five degrees under a force of 4,725 pounds". The Association believes this wording is ambiguous and would be more clearly stated by focusing on the movement of the head of the anchor. The Association also proposes to change the angle of pull from forty-five degrees to a range of forty to fifty degrees for the reasons already stated in comments on Section (2)(E) 2 A. Therefore the Association proposes to reword this subsection as follows: Failure shall be considered to have occurred when the head of the anchor moves more than two inches vertically or three inches horizontally when pulled at an angle of between 40-degrees and 50-degrees under a force of 4,725 pounds.

RESPONSE AND EXPLANATION OF CHANGE: The Commission agrees and proposes that 4 CSR 240-124.045 (6)(A) be changed accordingly.

COMMENT: 4 CSR 240-124.045 (6)(B) deals with installation and testing of anchors and requires that each anchor be installed with a "minimum of 750 pounds of pre-load with a minimum of four wraps after installation". The Association's engineers stated that pre-tensioning to 750 pounds is a requirement that is impossible to monitor because of the inevitable relaxation in tension that occurs following installation. There is a nationally excepted standard for anchor installation and the engineers suggested that it be followed. Using the language contained in the national standard the Association proposes to reword the second sentence of Section (6)(B) as follows: Each anchor shall be installed and pre-tensioned until it is flush with the stabilizer plate. The slotted bolt must have a minimum of four wraps of the strap after installation.

RESPONSE AND EXPLANATION OF CHANGE: The Commission agrees and proposes that 4 CSR 240-124.045 (6)(B) be changed accordingly.

COMMENT: 4 CSR 240-124.045 (8) deals with spacing of anchors in wind zone 1 conditions. Subsection (A) and (B) each deal with anchor spacing in relation to beam spacing. However, approximately eighty percent of the manufactured homes sold have beam spacing measurements which are not addressed by either section A or B. For instance, many manufactured homes have 99.5 inch beam spacing. The Association believes this proposed rule should be revised to be more all-inclusive.

RESPONSE AND EXPLANATION OF CHANGE: The Commission agrees and proposes that 4 CSR 240-124.045 (8) be changed accordingly.

COMMENT: The Association believes that Table D attached to 4 CSR 240-124.045 should be revised. The criss-cross strapping system is recommended for us in homes where the 40-degree to 50-degree anchor angle cannot be achieved. Therefore, in order to make the caption of the table more descriptive the Association proposes to delete the words "For elevated single section homes (or portions thereof)" and in its place insert the words: For use in lieu of Diagonal Tie down Strap Spacing Table in circumstances where 40-degree to 50-degree anchor angle can not be achieved. The Association further proposes to modify the wording under the drawing in Table D. Presently the wording is as follows: "50-degree minimum strap angle applies only to homes with 75.5 inch or less I-beam spacing". The Association believes that this is an incorrect statement. The Association proposes to reword it as follows: 50-degree minimum strap angle applies to all homes.

RESPONSE AND EXPLANATION OF CHANGE: The Commission agrees and proposes that the caption of Table D be revised to reflect the suggested change. Rather than revise and reword the "50-degree minimum strap angle applying to homes with 75.5 inch or less I-beam spacing" reference, the Commission proposes to delete that text all together because the reference is incorrect and not necessary.

COMMENT: The Association proposes to reword the heading of Table E attached to 4 CSR 240-124.045 as follows: Table E strapping system for use in lieu of Diagonal Tie down Strap Spacing Table in circumstances where 40-degree to 50-degree anchor angle can not be achieved. The Association also maintains that in the opinion of the Associations engineers the method of strapping shown in Table E is incorrect. The

Association provided an example drawing to detail the correct strapping method and to propose a more technical reference to the name of the method.

RESPONSE AND EXPLANATION OF CHANGE: The Commission agrees and proposes that the caption of Table E be revised to reflect the suggested change with the exception of referencing a 40-degree to 50-degree strap angle, instead of a 40-degree to 50-degree anchor angle. The Commission also agrees that the cross strapping diagrams are incorrect and should be revised as suggested, with the exception that the vertical straps, which should not be eliminated. Vertical straps are still required for purposes of uplift in this diagram.

COMMENT: The Association maintains that the regulations as written prohibit the use of vertical ties to stabilize a home, and that vertical ties are not required in wind zone one but are required in wind zones two and three. Missouri is wind zone one. However, the Association believes that in certain circumstances, vertical ties may be a useful alternative and therefore should not be prohibited in the proper circumstance.

RESPONSE: Missouri regulations do not prohibit vertical ties; the regulations do state however, that vertical ties are not required in wind zone one. Since the use of vertical ties are not prohibited by State regulations, then anyone could install them if desired.

4 240-124.045 Anchoring Standards

(1)(C) Anchoring systems means a combination of ties, anchoring equipment, and anchors that will, when properly designed and installed, resist overturning and lateral movement of the manufactured home from wind forces;

(6)(A) Each anchor, when installed in classified soil, must be capable of resisting a minimum allowable working load of 3,150 pounds in the direction of the tie, plus a 50 percent overload (4,725 pounds total) without failure. Failure shall be considered to have occurred when the head of the anchor moves more than two inches vertically or three inches horizontally when pulled at an angle of between 40-degrees and 50-degrees under a force of 4,725 pounds.

(6)(B) Each manufactured anchor shall be tested and installed in accordance with the terms of its specified testing procedures and the anchor manufacturer's instructions. Each anchor shall be installed and pre-tensioned until it is flush with the stabilizer plate. The slotted bolt must have a minimum of four wraps of the strap after installation.

(8)(A) If the floor width is 166 inches (typical 14-wide), with I-beam spacing 95 inches or greater center to center and the distance from the top of the footer to the top of the I-beam is no higher than 64 inches, anchors shall be spaced 8 feet apart for classified soil, or 5 feet apart for unclassified soil.

(8)(B) If the floor width is 141 inches (typical 12-wide), with I-beam spacing 75.5 inches or greater center to center and the distance from the top of the footer to the top of the I-beam is no higher than 52 inches, anchors shall be spaced 6 feet apart for classified soil, or 4 feet apart for unclassified soil.