



## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Greg Metz

Date: 3/26/2024  
Revised 4/4/24  
Revised 4/11/2024  
Model Code: N/A

Email address: [Greg.Metz@State.MN.US](mailto:Greg.Metz@State.MN.US)

Telephone number: 651-284-5884

Code or Rule Section: MR 1300

Firm/Association affiliation, if any: DLI/CCLD

Topic of proposal: Definition- Single family dwelling

Code or rule section to be changed: **1300.0070 Subp. 22a. Single family dwelling.**

Intended for Technical Advisory Group ("TAG"):

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<b><u>General Information</u></b>	<b><u>Yes</u></b>	<b><u>No</u></b>
A. Is the proposed change unique to the State of Minnesota?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Is the proposed change required due to climatic conditions of Minnesota?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C. Will the proposed change encourage more uniform enforcement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Will the proposed change remedy a problem?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. Does the proposal delete a current Minnesota Rule, chapter amendment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
F. Would this proposed change be appropriate through the ICC code development process?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### **Proposed Language**

1. The proposed code change is meant to:

- change language contained the model code book? If so, list section(s).
- change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
- delete language contained in the model code book? If so, list section(s).
- delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
- add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striketrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

~~Subp. 22a. **Single family dwelling.** “Single family dwelling” means that a single freestanding detached structure with one family of non-transient occupants containing occupiable space including spaces for living, sleeping, eating, cooking, toileting and bathing. The structure may include an attached garage space for storage of private passenger vehicles. The structure shall not contain uses with occupancy classifications listed in Minnesota Rule 1305.~~

Subp. 22a. **Single family dwelling.** “Single family dwelling” means a freestanding detached residential structure containing one dwelling unit and may include a garage.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts. No.

### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

Single family dwelling is currently undefined. With the pressure to expand uses of single family dwellings to many functions other than housing one family in a detached structure, this definition for direct deferral to Minnesota Rule 1309 is needed.

2. Why is the proposed code change a reasonable solution?

This definition will clarify the scoping requirements for direct deferral to Minnesota Rule 1309. Other uses will be first deferred to Minnesota Rule 1305 where other criteria may be applied specific to the use, AND allowances may be made for construction of the building itself to be per Minnesota Rule 1309 by exception when applicable.

3. What other factors should the TAG consider?

- Fire separation requirements for buildings that end up ONLY being scoped to MR 1305.
- Handicap accessibility requirements for buildings scoped to MR 1305.
- Fire sprinkler system requirements for buildings scoped to MR 1305.
- Transient use requirements as a function of initial construction and developer intent vs. private property owners using their own private property for other occasional purposes.

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.

No cost change for what is normally scoped to Minnesota Rule 1309. There may be some increased costs for those who “push the envelope” of current code allowances.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

For projects that “push the envelope” of current code allowances, the increased costs may be in the form of providing handicap accessibility for intended transient use, providing fire protection from adjacent properties where buildings are constructed less than 10 feet from property lines, and providing sprinkler systems when transient use is intended and the home is over 4,500 square feet.

No anticipated cost increases for what is normally considered a single-family home.

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.  
Developers and property owners will bear the costs of these luxury facilities or investment properties.
4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.  
No. No cost change and no additional enforcement costs.
5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.

No.

### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?  
Architects, engineers, developers, home designers, builders, residential contractors.
2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

Create another category within MR 1300 for IRC scoped buildings intended for use as hotels, and another category within MR 1300 for private mixed-use buildings.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

Consequences of not adopting the change will result in continued misinterpretation of code and mis-use of what was intended to be a simple allowance for small, inconsequential buildings.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.

No

\*\*\*Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can considered by the TAG.



**CODE CHANGE PROPOSAL FORM**  
(Must be submitted electronically)

Author/requestor: Gregory Metz

Date: 8/8//2024

Email address: [Greg.Metz@State.MN.US](mailto:Greg.Metz@State.MN.US)

Model Code: N/A

Telephone number: 651-284-5884

Code or Rule Section: MR 1303.1600, Subp. 3

Firm/Association affiliation, if any: DLI/CCLD

Topic of proposal: Frost protection for exterior door landings

Code or rule section to be changed: **1303.1600, Subpart 2 Soil under slab on grade**

Intended for Technical Advisory Group ("TAG"):

**General Information**

**Yes   No**

- A. Is the proposed change unique to the State of Minnesota?  Yes  No
- B. Is the proposed change required due to climatic conditions of Minnesota?  Yes  No
- C. Will the proposed change encourage more uniform enforcement?  Yes  No
- D. Will the proposed change remedy a problem?  Yes  No
- E. Does the proposal delete a current Minnesota Rule, chapter amendment?  Yes  No
- F. Would this proposed change be appropriate through the ICC code development process?  Yes  No

**Proposed Language**

1. The proposed code change is meant to:
  - change language contained the model code book? If so, list section(s).
  - change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
  - delete language contained in the model code book? If so, list section(s).
  - delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
  - add new language that is not found in the model code book or in Minnesota Rule.
2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~strike through~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

### **1303.1600 FOOTING DEPTH FOR FROST PROTECTION.**

Subp. 3. **Frost protection for exterior door landings.** Exterior doors utilized for means of egress or accessible entrances shall be provided with landings and associated foundations protected in accordance with subpart 1 or subpart 2.

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4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts. No, N/A

#### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

Means of egress are required to be unobstructed. Accessible entrances and accessible means of egress have tolerances of 1/4" vertical. Landings subject to frost can rise several inches, enough to jamb doors and prevent exterior swinging doors from opening to allow free egress during emergencies. Frost protection of exterior landings is currently not specifically addressed.

2. Why is the proposed code change a reasonable solution?

Providing frost protected foundations at exterior door landings used as means of egress and accessible entrances ensures that the landings will not move under frost conditions causing code violations in accessibility and means of egress.

3. What other factors should the TAG consider?

None

#### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.

No cost increase. Providing accessible entrances that maintain construction tolerances and providing unobstructed means of egress are already requirements of the building code. This is a clarification. If a designer wishes to submit an alternative design demonstrating equivalency, they may still do so under Minnesota Rule, 1300.0110, Subpart 13.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

No cost increase.

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.

No cost increase.

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.  
No.
5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.  
  
No.

**Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?  
Architects, engineers, developers, home designers, builders, commercial and residential contractors.
2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.  
  
No.
3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?  
  
Accessible entrances and means of egress will move out of tolerance under sub-freezing conditions resulting in inhibited accessibility and potential loss of life due to blocked means of egress under emergency conditions.
4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.  
  
No

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**CODE CHANGE PROPOSAL FORM**  
(Must be submitted electronically)

Author/requestor: Gregory Metz

Date: 4/2/2024

Email address: [Greg.Metz@State.MN.US](mailto:Greg.Metz@State.MN.US)

Model Code: N/A

Telephone number: 651-284-5884

Code or Rule Section: MR 1301.1000,  
Subpart 3

Firm/Association affiliation, if any: DLI/CCLD

Topic of proposal: Mandatory  
Continuing Education

Code or rule section to be changed: **1301.1000 Approved education programs, Subpart 3 Mandatory Continuing Education**

Intended for Technical Advisory Group ("TAG"):

**General Information**

**Yes   No**

- A. Is the proposed change unique to the State of Minnesota?  Yes  No
- B. Is the proposed change required due to climatic conditions of Minnesota?  Yes  No
- C. Will the proposed change encourage more uniform enforcement?  Yes  No
- D. Will the proposed change remedy a problem?  Yes  No
- E. Does the proposal delete a current Minnesota Rule, chapter amendment?  Yes  No
- F. Would this proposed change be appropriate through the ICC code development process?  Yes  No

**Proposed Language**

1. The proposed code change is meant to:

- change language contained the model code book? If so, list section(s).
- change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).  
1300.1000, Subpart 3
- delete language contained in the model code book? If so, list section(s).
- delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
- add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~strike through~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

#### **1301.1000 CONTINUING EDUCATION CREDIT.**

Subp. 3. **Mandatory continuing education.** The state building official shall require that specific courses be taken, if necessary, to insure continuing education in relevant code application, administration, or enforcement practices. The requirements may include training courses when new codes or legislative mandates are adopted.

A. Certified Building Officials and Certified Building Officials- Limited shall complete not less than six hours of continuing education in plan review and inspections of plumbing code compliance.

B. Certified Building Officials and Certified Building Officials- Limited shall complete not less than six hours of continuing education in plan review and inspections of mechanical and fuel gas code compliance.

C. Certified Building Officials and Certified Building Officials- Limited shall complete not less than six hours of continuing education in plan review and inspections pertaining to the Minnesota Energy Codes.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts. No, N/A

#### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

Building officials and building officials-limited review and inspect plumbing systems, mechanical systems and fuel gas systems as part of their daily duties but there is no specific requirement for continuing education to maintain basic competencies in these areas. Energy code is becoming more and more prevalent and complex as a plan review and inspections concern.

2. Why is the proposed code change a reasonable solution?

Six hours is the minimum competency criteria for continuing education already established for plumbing inspectors, mechanical inspectors, and combination inspectors. Therefore, it is reasonable that building officials in charge of them would have the same level of competency.

3. What other factors should the TAG consider?

If requiring minimum energy code training for residential energy and commercial energy compliance is at the same level of importance.

#### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.

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No cost change. The continuing education is already required in general, this is just developing definition into specific areas. The cost is the same.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

No cost increase.

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.

No cost increase.

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.

No.

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.

No.

#### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?  
Certified building officials, building officials- limited.

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

No.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

N/A

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.

No

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## CODE CHANGE PROPOSAL FORM

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Author/requestor: Gregory Metz

Date: 4/2/2024

Email address: [Greg.Metz@State.MN.US](mailto:Greg.Metz@State.MN.US)

Model Code: N/A

Telephone number: 651-284-5884

Code or Rule Section: MR 1301.1600,

Firm/Association affiliation, if any: DLI/CCLD

Topic of proposal: Inspector  
Continuing Education

Code or rule section to be changed: **1301.1600 Inspector Continuing Education**

Intended for Technical Advisory Group ("TAG"):

### General Information

**Yes    No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Proposed Language

1. The proposed code change is meant to:

change language contained the model code book? If so, list section(s).

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).  
1300.1600

delete language contained in the model code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striketrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

### **1301.1600 CONTINUING EDUCATION.**

Subpart 1. **Mandatory continuing education.** Each construction code inspector must annually meet the requirements for continuing education in subpart 2 or 3, and provide verifiable evidence of completed continuing education credits to the designated building official. The designated building official must retain evidence of compliance for three years.

~~Subp. 2. **Building, mechanical, and plumbing inspectors.** Each building inspector, mechanical inspector, or plumbing inspector must complete 15 continuing education credit hours of continuing education annually, of which six hours must be in the discipline in which the individual meets the competency criteria.~~

Subp. 2a. **Building inspectors.** Each building inspector must complete 15 continuing education credit hours of continuing education annually, of which not less than three hours must be related to plumbing code, not less than three hours must be related to mechanical code and not less than two hours must be related to energy code.

Subp. 2b. **Mechanical inspectors.** Each mechanical inspector must complete 15 continuing education credit hours of continuing education annually, of which six hours must be related to mechanical and fuel gas codes.

Subp. 2c. **Plumbing inspectors.** Each plumbing inspector must complete 15 continuing education credit hours of continuing education annually, of which six hours must be related to plumbing code.

Subp. 3. **Combination inspectors.** Each combination inspector must complete 19 hours of continuing education credit annually, of which six hours must be in each discipline.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts. No, N/A

### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

Building officials and building officials-limited review and inspect plumbing systems, mechanical systems and fuel gas systems as part of their daily duties but there is no specific requirement for continuing education to maintain basic competencies in these areas.

2. Why is the proposed code change a reasonable solution?

Six hours is the minimum competency criteria for continuing education already established for plumbing inspectors, mechanical inspectors, and combination inspectors. Therefore, it is reasonable that building inspectors would have the same level of competency.

3. What other factors should the TAG consider?

Requiring minimum energy code training for residential energy and commercial energy compliance.

**Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.

No cost change. The continuing education is already required in general, this is just developing definition into specific areas. The cost is the same.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

No cost increase.

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.

No cost increase.

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.

No.

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.

No.

**Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?

Certified building officials, building officials- limited.

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

No.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

N/A

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.

No

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## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Gregory Metz

Date: 8/8//2024

Email address: [Greg.Metz@State.MN.US](mailto:Greg.Metz@State.MN.US)

Model Code: N/A

Telephone number: 651-284-5884

Code or Rule Section: MR 1300.0120,  
Subpart 4A

Firm/Association affiliation, if any: DLI/CCLD

Topic of proposal: Work exempt from  
building permit

Code or rule section to be changed: **1303.1600, Subpart 2 Soil under slab on grade**

Intended for Technical Advisory Group ("TAG"):

### General Information

**Yes    No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
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### Proposed Language

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- delete language contained in the model code book? If so, list section(s).
- delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
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2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striketrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

### **1300.0120 PERMITS**

Subp. 4. **Work exempt from permit.** Add item (15) as follows:

(15) Piers constructed over lakes, rivers, or wetlands where the pier is not used as a means of egress from a building, or a required accessible route, or where the pier is not used as an accessible fishing pier.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts. No, N/A

### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

Building officials have been requiring guards at recreational piers intended for watercraft use or other purposes where the piers are available for use to the public. If the pier is not associated with accessibility requirements or means of egress from a building, then the building code is not applicable

2. Why is the proposed code change a reasonable solution?

The building code does not regulate guardrails or handrails at stairways out in the landscape that are not associated with buildings or building means of egress. The application is similar that of a pier which is not directly associated with access to or means of egress from a building, and is not intended for use by those requiring accessibility protections does not need frost protection for the foundation system, structural analysis, or fall protection.

3. What other factors should the TAG consider?

None

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.

No cost increase. This is a clarification of exemption from permit and should decrease costs where local building officials may be interpreting a requirement for building permits.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

No cost increase.

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.

No cost increase.

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.  
No.
5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.

No.

### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?  
Architects, engineers, developers, builders, commercial and residential contractors, building officials, building inspectors.
2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

No.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

Non-uniformity of building code application.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.

No

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## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Joshua Kerber

*Date:* 9/1/24

*Email address:* joshua.kerber@state.mn.us

*Model Code:* 1303

*Telephone number:* 651-219-0785

*Code or Rule Section:* MN Rules 1303.2400-1303.2403

*Firm/Association affiliation, if any:* MN Dept. of Health

*Topic of proposal:* Radon (MN Rule 1303)

*Code or rule section to be changed:* 1303.2402: Add subpart 7 “Radon Testing”

*Intended for Technical Advisory Group (“TAG”):* 1300, 1301, 1302, 1303

### General Information

**Yes   No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Proposed Language

1. The proposed code change is meant to:

- change language contained the model code book? If so, list section(s).
- change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
- delete language contained in the model code book? If so, list section(s).
- delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
- add new language that is not found in the model code book or in Minnesota Rule.

This proposal takes language from the new 2021 ICC Appendix AF and 2024 Appendix BE and adds it to MN Rule 1303.2402. This is an amended proposal to MDH’s original proposal dated July 1, 2024 that removes requirements tied to the certificate of occupancy, but this proposal does add a layer of public health protection in requiring radon testing to be conducted and disclosed per MN Statute 144.496 “Minnesota Radon Awareness Act.”

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.

Yes

326B.106 Subd 6. Radon Code: "The commissioner of labor and industry shall adopt rules for radon control as part of the State Building Code for all new residential buildings. These rules shall incorporate the radon control methods found in the International Residential Code appendix as the model language, with necessary amendments to coordinate with the other adopted construction codes in Minnesota." Since the IRC appendix has been changed to require radon testing, MN building code should also be changed.

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~strike through~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

1303.2402 Subp. 7 **Radon Testing.** The building shall be tested for radon prior to the issuance of the certificate of occupancy.

A. Testing shall be performed after the dwelling passes its air tightness test.

B. Testing shall be performed after the radon control system and HVAC installations are complete. The HVAC system shall be operating during the test. Where the radon system has an installed fan, the dwelling shall be tested with the radon fan operating.

C. Testing shall be performed on each unique foundation of the building (basement, crawlspace, slab on grade), whether or not that space is finished. Spaces that are physically separated, including individual dwelling units in contact with the soil, shall be tested separately. All radon tests shall be conducted at the same time.

D. Testing shall not be performed in a closet, hallway, stairway, laundry room, furnace room, bathroom or kitchen.

E. Testing shall be performed by the owner of the property with an approved test kit from a laboratory licensed by the Minnesota Department of Health under MN 144.4961, or by a professional licensed to perform radon testing under MN 144.4961. Testing performed in a single-family dwelling by the owner of the property shall include two tests per testing location, and the test results shall be averaged per location. Testing performed in a multi-family building by the owner shall include a test in each individual dwelling unit in contact with the soil. Testing shall be in accordance with this section and the testing laboratory kit manufacturer's instructions.

F. Testing shall be performed with the windows closed and the exterior doors closed, except when being used for entrance or exit. Windows and doors shall be closed for at least 12 hours prior to the testing.

G. Testing shall be performed by the building owner or a Minnesota Department of Health licensed radon professional.

H. Testing shall be conducted over a period of not less than 48 hours or not less than the period specified by the testing device manufacturer, whichever is longer.

I. Written radon test results shall be provided by the test lab or testing party. The final written test report shall be provided to the code official and building owner prior to the issuance of the certificate of occupancy.

J. Builder shall disclose radon test results and provide notification according to requirements of MN Statute 144.496.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

No

### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

Radon is a colorless and odorless gas that comes from the soil. The gas can accumulate in the home. Radon gas decays into fine particles that are radioactive. When inhaled, these fine particles can damage the lungs. Exposure to radon over a long period of time can lead to lung cancer.

It is estimated that 21,000 people die each year in the United States from lung cancer due to radon exposure. A radon test is the only way to know how much radon is in your home. Radon can be reduced with a mitigation system. In Minnesota, about 40% of the general housing stock has elevated radon levels: MDH Environmental Public Health Tracking Program – Radon (<https://data.web.health.state.mn.us/web/mndata/radon>).

The Proposed Change is needed because radon issues are still found in newly constructed homes. Buyers of newly constructed homes are given a false sense of security and often do not test for radon because they have a passive radon system. While the changes in Minnesota building code over time have been shown to generally lower radon levels, we routinely find elevated radon in homes built with passive radon control methods.

The Minnesota Department of Health conducted a study in 2015 of newly constructed homes in Minnesota to measure radon levels in “as-built” Minnesota homes (since the code change in 2009 to require radon resistant new construction). We found that approximately 20% of newly constructed single-family homes had radon concentrations above the USEPA’s Action level of 4 picocuries per liter (pCi/L) of air. This is compared to roughly 37% of homes built prior to 2009 in the same counties having radon over 4 pCi/L. In addition, activating the systems in homes with elevated radon (by adding a radon fan) reduced radon to under 4 pCi/L in 67 of 71 homes and overall by 94% to an average of 0.3 pCi/L. In the activated homes still over 4 pCi/L, a larger fan and/or sealing the slab and openings reduced radon to under 4 pCi/L. Sealing is the most critical piece often missed during the final building inspection.

[https://aarst.org/proceedings/2015/MINNESOTA\\_DEPARTMENT\\_OF\\_HEALTHS\\_RADON\\_RESISTANT\\_NEW\\_CONSTRUCTION\\_EFFECTIVENESS\\_STUDY.pdf](https://aarst.org/proceedings/2015/MINNESOTA_DEPARTMENT_OF_HEALTHS_RADON_RESISTANT_NEW_CONSTRUCTION_EFFECTIVENESS_STUDY.pdf)

Other studies have found similar radon reductions in passive and active RRNC homes. In a review of several studies, Professor William Angell (University of Minnesota) found passive systems produce about a 50% reduction, when built to standards, and that some new passive system homes have elevated radon.

[https://sosradon.org/files/sosradon/RRNC\\_Codes/Radon%20Control%20In%20New%20Homes%20-%20Angell%20summary%20of%20research.pdf](https://sosradon.org/files/sosradon/RRNC_Codes/Radon%20Control%20In%20New%20Homes%20-%20Angell%20summary%20of%20research.pdf)

2. Why is the proposed code change a reasonable solution?

The United States Action Level for radon is 4 pCi/L, as set by the USEPA. The only way to know how much radon is in any building is to test. Testing is easy, inexpensive, and easy to interpret.

Adding this testing requirement is a means of “commissioning” the radon control system and ensures the building will be tested for radon. In addition, builders will be required to disclose the radon concentrations to the buyers, who can then decide whether to active the passive system. This is a simple solution to a life safety issue and improves public health.

Adding this testing requirement will not extend building completion schedules as there will be plenty of time to conduct the test during the latter parts of construction, and the testing can even be conducted over weekends when many of the trades may not be present in the building.

The language proposed is based on 2021 Appendix AF104 and 2024 Appendix BE of the IRC, with a few differences:

[https://codes.iccsafe.org/content/IRC2021P2/appendix-af-radon-control-methods#IRC2021P2\\_AppxAF\\_SecAF104](https://codes.iccsafe.org/content/IRC2021P2/appendix-af-radon-control-methods#IRC2021P2_AppxAF_SecAF104)

The two main differences from IRC code are as follows:

1. The Minnesota Radon Licensing Act (MRLA, MN Statute 144.4961) requires MDH licensed professionals conduct testing. Under IRC item 5, registered third party is changed to reflect this MN specific licensure.
2. Other portions have been modified to better fit existing Minnesota Rules on Radon. These changes do not change the intent of the language in the IRC.

The proposed language was vetted through the ICC process and many affected parties came together to craft and support the language on a national level. Proponents of the language include State and Tribal Health programs, the professional radon trade association, radon practitioners, code officials, the US Environmental Protection Agency, and National Association of Home Builders (NAHB).

During testimony in favor of the proposed code language, NAHB stated its “members want to offer houses that meet safety standards” and this language “offers thorough and simple to follow instructions to meet those standards.” NAHB supported the proposal. The final vote at the in-person hearing in Las Vegas in 2019 was 100 in support to only 7 negative votes. This approval carried through the online voting that followed as well.

For those interested in the final discussion of the IRC proposal, here is the link to the 2019 Las Vegas Code Hearing for RB289-19: <https://www.cdpassess.com/videos/3109/>

### 3. What other factors should the TAG consider?

Another major factor to be considered is health equity. This proposal ensures all occupants of newly constructed residential buildings will be living in a building that has been tested for radon, not just those fortunate enough to be able to afford testing and mitigation after occupancy.

## **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.

This proposed code change will increase costs on a single-family dwelling due to the purchase of two radon test devices for a typical single-family home or by hiring a licensed radon professional. The cost of a radon test kit is \$15-\$20 (x 2 so \$30-\$40 per house) while the cost of hiring a radon professional is between \$100-\$200/radon test. In multi-family building testing, multiply these estimates by the number dwelling units in contact with the soil.

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Gregory Metz

*Date:* 9/5/24

*Email address:* greg.metz@state.mn.us

*Model Code:* N/A

*Telephone number:* 651-284-5884

*Code or Rule Section:* MR 1300.0030

*Firm/Association affiliation, if any:* DLI/CCLD

*Topic of proposal: Definition:*

*Application- add change of occupancy*

*Code or rule section to be changed:* Subpart 2A

*Intended for Technical Advisory Group ("TAG"):* 1300

### General Information

**Yes**    **No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Proposed Language

1. The proposed code change is meant to:

change language contained the model code book? If so, list section(s).

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).  
MR 1300.0030, Subpart 2A. Add change of occupancy to purpose scoping.

delete language contained in the model code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.  
No

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striketrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Subp. 2 Application.

A. Thes State Building Code is the standard that applies statewide for the construction, reconstruction, alteration, change of occupancy, and repair of buildings and other structures of the type governed by the code, except as provided in Minnesota Statutes, Section 326B.121. The state Building Code supersedes the building code of any municipality. The State Building Code does not apply to agricultural buildings, except with respect to state inspections required or rulemaking authorized by Minnesota Statutes, Sections 103F.141, 326B.36, and 326B.121, subdivision 1, paragraph (c), clause (2).

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.  
No.

### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

The state building code does regulate change of occupancy and it is implied that the state building code is applicable to changes of occupancy but it needs to be stated in this section for clarity.

2. Why is the proposed code change a reasonable solution?

Other parts of the State Building Code include regulations regarding change of occupancy. It is reasonable that if the code addresses change of occupancy within the body of work, that the code should be applicable to a change of occupancy and it should be listed here in where the application of the state building code occurs.

3. What other factors should the TAG consider?  
None

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.  
No cost change. This is a clarification of a commonly interpreted existing condition included to avoid conflicts and overly progressive interpretations.
2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.  
N/A
3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.  
N/A

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.  
No
5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.  
No

## **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?  
Architects, engineers, developers, home designers, builders, residential contractors, home owners.
2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

The purpose is to ensure that buildings undergoing a change of occupancy and no other intended work are still under the scoping of the State Building Code even though no alterations are intended. The code may require alterations because of the change of occupancy.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

No cost change. This is clarifying an existing condition to avoid exploitation of a currently undefined condition.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.  
No.

\*\*\*Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can considered by the TAG.

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Gregory Metz

*Date:* 9/5/24

*Email address:* greg.metz@state.mn.us

*Model Code:* N/A

*Telephone number:* 651-284-5884

*Code or Rule Section:* MR 1300.0070

*Firm/Association affiliation, if any:* DLI/CCLD

*Topic of proposal: Definition: Two-family Dwelling*

*Code or rule section to be changed:* Subpart 22 b

*Intended for Technical Advisory Group ("TAG"):* 1300

### General Information

**Yes   No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Proposed Language

1. The proposed code change is meant to:

change language contained the model code book? If so, list section(s).

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).  
MR 1300.0070, Subpart 12b. Definition of IRC-2 two-family dwelling

delete language contained in the model code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.  
No



3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striketrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Subp. 22b. Two-family dwelling. “Two-family dwelling” means a freestanding detached residential structure containing two dwelling units and may include one or two attached garages.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

Two-family dwelling is currently undefined. With the pressure to expand uses of two-family dwellings to many functions other than housing two families in a single detached structure, this definition for direct deferral to Minnesota Rule 1309 is needed.

2. Why is the proposed code change a reasonable solution?

This definition will clarify the scoping requirements for direct deferral to Minnesota Rule 1309. Other uses will be first deferred to Minnesota Rule 1305 where other criteria may be applied specific to the use, AND allowances may be made for construction of the building itself to be per Minnesota Rule 1309 by exception when applicable.

3. What other factors should the TAG consider?
  - Fire separation requirements for buildings that end up ONLY being scoped to MR 1305.
  - Handicap accessibility requirements for buildings scoped to MR 1305.
  - Fire sprinkler system requirements for buildings scoped to MR 1305.

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.  
No cost change. This is a clarification of a commonly interpreted existing condition included to avoid conflicts and overly progressive interpretations.
2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.  
N/A
3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.  
N/A
4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.  
No

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.  
No

### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?  
Architects, engineers, developers, home designers, builders, residential contractors, home owners.
2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

The purpose is to ensure that buildings scoped to MR 1309 are detached unless they meet the criteria of townhomes with equivalent fire resistance rated dwelling unit separation and sprinkler systems for fire protection.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

No cost change. This is clarifying an existing condition to avoid exploitation of a currently undefined condition.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.  
No.

\*\*\*Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can considered by the TAG.

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Joshua Kerber

*Date:* 9/6/24

*Email address:* joshua.kerber@state.mn.us

*Model Code:* 1303

*Telephone number:* 651-219-0785

*Code or Rule Section:* MN Rules 1303.2400-1303.2403

*Firm/Association affiliation, if any:* MN Dept. of Health

*Topic of proposal:* Radon (MN Rule 1303)

*Code or rule section to be changed:* 1303.2402 Subp 3

*Intended for Technical Advisory Group ("TAG"):* 1300, 1301, 1302, 1303

### General Information

**Yes**    **No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Proposed Language

1. The proposed code change is meant to:

change language contained the model code book? If so, list section(s).

1303.2402 Subp 3

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in the model code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.  
No
3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striketrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Subp. 3. Connection to gas-permeable layer. "T" fitting.

A.) A "T" fitting shall be installed beneath the soil-gas membrane with a minimum of 10 feet of perforated pipe connected to any two openings of the "T" fitting, or by connecting the two openings to the interior drain tile system. The third opening of the "T" fitting shall be connected to the vent pipe. The perforated pipe or drain tile and the "T" fitting shall be the same size as the vent pipe. All connections to the "T" fitting shall be tight fitting, or

B.) A 90-degree fitting shall be installed beneath the soil-gas membrane with a minimum of 20 feet of perforated pipe connected to the opening of the 90-degree fitting. The other end of the 90-degree fitting shall be connected to the vent pipe. The perforated pipe and the 90-degree fitting shall be the same size as the vent pipe. All connections to the 90-degree fitting shall be tight fitting.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.  
No

### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

The proposed change will help local code officials when they are unclear on approved alternatives for the connection between the radon vent pipe and the gas permeable layer. Not every building will have a typical sump basket and interior drain tile. Some buildings, especially those made with wood foundations, have a lot of gas permeable gravel under and around the foundation. In these cases, drawing soil gas from the edges of the building is not ideal and using 20 feet of perforated pipe to draw more air from under the middle of the building is preferred.

2. Why is the proposed code change a reasonable solution?

This code change offers another acceptable alternative to what is already in code while allowing for more effective radon control and no additional costs to the builder.

3. What other factors should the TAG consider?

Not all code officials are comfortable approving alternative designs or going through the process of reviewing documentation and approving new alternatives. They would rather just enforce what is in code. That can put some contractors at a disadvantage when trying to control radon levels in the most efficient and effective way.

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.

No

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

NA

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.

NA

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.

No

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.

No

### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?

Builders of newly constructed residential buildings and building code officials

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

This change is self-explanatory and adds an alternative that is as effective for radon control.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

If this proposal is not adopted, there will be some code officials who will not accept the alternative methods and force radon control contractors to potentially conduct more work in the building if elevated radon levels are found.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.

No

\*\*\*Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can be considered by the TAG.

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Joshua Kerber

*Date:* 9/6/24

*Email address:* joshua.kerber@state.mn.us

*Model Code:* 1303

*Telephone number:* 651-219-0785

*Code or Rule Section:* MN Rules 1303.2400-1303.2403

*Firm/Association affiliation, if any:* MN Dept. of Health

*Topic of proposal:* Radon (MN Rule 1303)

*Code or rule section to be changed:* 1303.2402 Subp 4 E

*Intended for Technical Advisory Group ("TAG"):* 1300, 1301, 1302, 1303

### General Information

**Yes**    **No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Proposed Language

1. The proposed code change is meant to:

change language contained the model code book? If so, list section(s).

1303.2402 Subp 4 E

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in the model code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.  
No
3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striethrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

E. Sumps. A sump connected to interior drain tile may serve as the termination point for the vent pipe, if the sump cover is sealed or gasketed and designed to accommodate the vent pipe. The sump pump water discharge pipe shall have a backflow preventer installed. All sumps connected to drain tile or the gas permeable layer shall have a sealed cover. These sealed covers shall be identified with at least 1 label. The label shall read: "Radon Gas Vent System."

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

No

### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

Most occupants are not knowledgeable about the radon control methods used in constructing their house. The sump lids are required to be sealed airtight (assumed in 1303.2402 Subp 4), but if occupants open the lid, or it remains unsealed, then the radon control methods used will not work. The label requirement is an informational piece to remind occupants to replace the lid in an airtight fashion once any work in the sump is completed. If not, then the control methods will not work and raise system operating costs for active systems.

2. Why is the proposed code change a reasonable solution?

The language clarifies an assumption in the code and adds a layer of protection by identifying the sump lid as a part of the radon control system. This is very inexpensive means of addressing a known issue.

3. What other factors should the TAG consider?

TBD

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.

There will be a very small increase in costs to cover a label or sticker.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

Informing the occupants of the purpose of the sump lid will educate them to keep it sealed. Keeping the cover sealed will help keep radon levels low.

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.

The very small cost increase will likely be borne by the builder and then on to the buyer of the new residential building

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.

Code officials will need to check the covers are sealed and labelled. This should only take a short moment.

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.

No

### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?

Builders of newly constructed residential buildings and building code officials.

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

I cannot think of an easier and more straightforward way of informing the occupants of the importance of maintaining a sealed sump cover.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

The consequences of not adopting these changes would be continuing to allow unsealed sump covers and unlabeled sump covers. Sumps are a known and important radon entry point and the covers need to be sealed to better control radon.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.

No

\*\*\*Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can be considered by the TAG.



## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Joshua Kerber

*Date:* 9/6/24

*Email address:* joshua.kerber@state.mn.us

*Model Code:* 1303

*Telephone number:* 651-219-0785

*Code or Rule Section:* MN Rules 1303.2400-1303.2403

*Firm/Association affiliation, if any:* MN Dept. of Health

*Topic of proposal:* Radon (MN Rule 1303)

*Code or rule section to be changed:* 1303.2401 "Vent Pipe" and/or 1303.2402 Subp 5 B

*Intended for Technical Advisory Group ("TAG"):* 1300, 1301, 1302, 1303

### General Information

**Yes   No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Proposed Language

1. The proposed code change is meant to:

change language contained the model code book? If so, list section(s).

1303.2401 "Vent Pipe" definition and/or 1303.2402 Subp 5 B "Multiple vent pipes"

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in the model code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.

No

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striketrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

*Language and table below are for illustrative purposes to start a discussion on vent pipe sizing in larger buildings. Author is unclear if tables are allowed in MN code, but present this table from the ANSI/AARST standard “Soil Gas Control Systems in New Construction of Multifamily, School, Commercial and Mixed-Use Buildings – Rev. 5/23”*  
<https://standards.aarst.org/CC-1000-2018-0523/8/index.html>

B. Multiple vent pipes. In buildings where interior footings or other barriers separate the gas-permeable material into two or more areas, each area shall be fitted with an individual radon control system in accordance with item A, or connected to a single radon gas vent pipe terminating above the roof in accordance with item A. In buildings with footprints larger than 2,500 square feet, multiple vent pipes may be needed. Use of larger diameter pipe will allow for soil gas transfer over a larger area. Table X.X (TBD) discusses which pipe diameters can be used to capture larger footprints.

**4.3 Soil Gas Vent Systems per Plenum Size**  
 An independent soil gas vent system with an exhaust pipe extended from the *soil gas collection plenum* to the roof shall be installed with exhaust pipe sizing no less than specified in Table 4.3 for each individual plenum and combined set of joined *soil gas collection plenums*.

Table 4.3 Plenum Size Restrictions		
Nominal inside pipe diameter	Maximum size of Soil Gas Collection Plenum(s) per duct size	
	Where compliant plenum installation is verified by inspection per Section 5.10.2	Size allowed where gas-tight plenum closure, per Section 6.3.2, is also provided
3 inch (7.6 cm)	3,500 square feet (325 m <sup>2</sup> )	4,000 square feet (372 m <sup>2</sup> )
4 inch (10.2 cm)	6,200 square feet (575 m <sup>2</sup> )	7,100 square feet (660 m <sup>2</sup> )
6 inch (15.2 cm)	14,000 square feet (1,300 m <sup>2</sup> )	16,000 square feet (1,486 m <sup>2</sup> )
	Where any plenum installation is not verified by inspection per Section 5.10.2	Penalty for non-compliant gas permeable layer per Section 5.5
3 inch (7.6 cm)	2,500 square feet (232 m <sup>2</sup> )	1250 square feet (116 m <sup>2</sup> )
4 inch (10.2 cm)	4,500 square feet (418 m <sup>2</sup> )	2250 square feet (209 m <sup>2</sup> )
6 inch (15.2 cm)	10,000 square feet (929 m <sup>2</sup> )	5,000 square feet (465 m <sup>2</sup> )

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

No

**Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

The proposal allows for fewer radon vent pipes to be used in large multi-family buildings and simplifies the location of connections to the gas permeable layer and vent pipe routing without adding costs to the builder. As written, the code suggests one single vent pipe may be sufficient for very large footprints. That is not the case as you can only reasonably move about 70 cubic feet of

air per minute through a 3-inch pipe. As more fittings and lengths of pipe are added to an active system, the amount of air of moving through the pipe decreases due to pipe resistance.

2. Why is the proposed code change a reasonable solution?

The proposal allows for more flexibility in how the radon control methods are designed and installed without adding costs to the builder and clarifies that a single 3-inch pipe is not sufficient for large footprints.

3. What other factors should the TAG consider?

TBD

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.

It is possible this proposal may lower costs for builders by reducing the number radon vent pipes needed to capture the entire footprint of large buildings. There are no additional costs with this proposal.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

NA

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.

NA

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.

Code officials will need to check the plans and verify the square footage of the area(s) covered by the larger diameter piping. This may take some additional time during plan review and inspections.

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.

No

### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?

Builders of newly constructed residential buildings and building code officials.

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

Moving to larger pipe is the only reasonable way to allow for additional airflow in vent piping. Requiring larger vent pipe diameters in all residential buildings is not reasonable and will likely be overkill for most single-family residential properties. This proposal captures the very large residential buildings (mostly multi-family buildings) and is a reasonable means to achieving the desired outcomes of radon control.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

This code change proposal is a response to code officials in the field asking about how a single 3-inch pipe is adequate in large buildings. The answer is a single 3-inch vent pipe is not adequate in large buildings. By not adopting this proposal, we will continue to see and hear confusion in the field and most large residential buildings will not have adequate radon control methods installed because there may only be a single 3-inch pipe covering the entire footprint.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.

No

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**CODE CHANGE PROPOSAL FORM**

(Must be submitted electronically)

Author/requestor: Joshua Kerber

Date: 9/6/24

Email address: joshua.kerber@state.mn.us

Model Code: 1303

Telephone number: 651-219-0785

Code or Rule Section: MN Rules 1303.2400-1303.2403

Firm/Association affiliation, if any: MN Dept. of Health

Topic of proposal: Radon (MN Rule 1303)

Code or rule section to be changed: 1303.2402 Subp 2. Add labelling requirement

Intended for Technical Advisory Group ("TAG"): 1300,1301,1302,1303

**General Information**

**Yes**    **No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Proposed Language**

1. The proposed code change is meant to:

- change language contained the model code book? If so, list section(s).
- change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
- delete language contained in the model code book? If so, list section(s).
- delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
- add new language that is not found in the model code book or in Minnesota Rule.  
This proposal adds a requirement to label the soil-gas retarder if it is not covered by concrete.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.  
No
3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striketrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Subp. 2. Soil-gas membrane installation. A soil-gas membrane shall be placed on top of the gas-permeable material prior to placing a floor on top of or above the soil. The soil-gas membrane shall cover the entire floor area. Separate sections of membrane must be lapped at least 12 inches (305 mm). The membrane shall fit closely around any penetration of the membrane to reduce the leakage of soil gases. All punctures or tears in the soil-gas membrane shall be repaired by sealing and patching the soil-gas membrane with the same kind of material, maintaining a minimum 12-inch (305 mm) lap. In instances where the soil-gas membrane is not covered by concrete, the edges, seams, and other openings shall be sealed with a compatible material to maintain an airtight cover on gas-permeable layer. In addition, membranes not covered by concrete shall be labelled as a component of a radon control system with an advisory to maintain its airtightness.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.  
No

### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

When crawlspaces are not poured, but still used for storage, damage to the soil-gas membrane can occur. There is no requirement to ensure the membrane is airtight if it is not covered by concrete. Sealing the joints and openings ensures it remains airtight. This labelling requirement is meant to inform occupants of the importance of protecting the membrane.

2. Why is the proposed code change a reasonable solution?  
This is a simple and cost-effective approach to increase the membrane performance and inform the occupants of its intent.
3. What other factors should the TAG consider?  
TBD

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.  
There will be a very small increase in costs to cover the sealing material (tape) and a label/sticker.
2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

Informing the occupants of the purpose of the soil-gas membrane should educate them to keep it in good repair and not to harm it in any way.

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.

The very small cost increase will likely be borne by the builder and then on to the buyer of the new residential building.

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.

Code officials will need to check the seams and openings are sealed and the membrane is labelled. This should only take a short moment.

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.

No

### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?

Builders of newly constructed residential buildings and building code officials.

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

Labeling and sealing are the only means to achieve the purposes of the proposed code change. Requiring all crawlspaces be poured concrete is not reasonable, but we need to maintain the radon control methods used.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

The consequences of not adopting these changes would be continuing to allow unsealed and unlabeled soil-gas membranes in potential storage areas.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.

No.

\*\*\*Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can considered by the TAG.

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Joshua Kerber

*Date:* 9/6/24

*Email address:* joshua.kerber@state.mn.us

*Model Code:* 1303

*Telephone number:* 651-219-0785

*Code or Rule Section:* MN Rules 1303.2400-1303.2403

*Firm/Association affiliation, if any:* MN Dept. of Health

*Topic of proposal:* Radon (MN Rule 1303)

*Code or rule section to be changed:* 1303.2402 Subp 5 A

*Intended for Technical Advisory Group ("TAG"):* 1300, 1301, 1302, 1303

### General Information

**Yes**    **No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Proposed Language

1. The proposed code change is meant to:

change language contained the model code book? If so, list section(s).

1303.2402 Subp 5 A

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in the model code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

add new language that is not found in the model code book or in Minnesota Rule.



2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.

No

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striethrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

A. Single vent pipe. The vent pipe shall be primed and glued at all fittings and shall extend up from the radon control system's collection point to a point terminating a minimum of 12 inches (305 mm) above the roof. The vent pipe shall be located at least 10 feet (3,048 mm) away from any window or other opening into the conditioned spaces of the building that is less than 2 feet below the exhaust point. Vent pipes routed through unconditioned spaces shall be insulated with a minimum of R-4 insulation. Vent pipes within the conditioned envelope of the building shall not be insulated.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

No

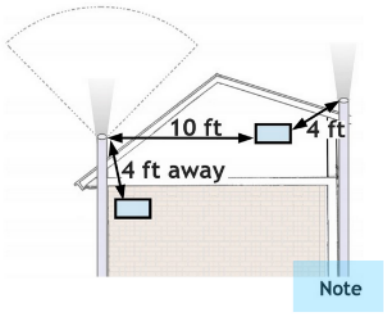
### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

The proposed change will allow for more venting options without adding any costs. This is a solution to commonly encountered dormer or gable windows. As currently stated, all radon exhaust points need to be at least 10 feet away from openings into the conditioned space of the building. That means all exhaust points need to be far away from dormer or gable windows. That limits where these vent pipes can penetrate the roof. However, in radon mitigation efforts, an exhaust point can be closer than 10 feet to openings as long as they are 2 feet above them. The soil gas mitigation standards require them to be 4 feet away from openings, but the IRC still has 2 feet, so that's why 2 feet is used in this proposal. Here is an illustration from the ANSI/AARST Soil Gas Mitigation Standard for clarity (free to view online: <https://standards.aarst.org/SGM-SF-2023/24/index.html>). This illustration is not meant to show pipes on the outside of buildings, rather to show the intent of the proposal when venting through the roof and maintaining safe distances. This proposal does nothing with the existing requirement of being 12 inches above the roof deck.

6.4.6 *Separation from operable openings in structures*  
The point of exhaust shall be compliant with **Section 6.4.3** (*Directional spread*) and located:

- a) not less than 10 feet (3 m) horizontally to the side operable openings in structures; and
- b) not less than 4 feet (120 cm) away from operable openings in structures that are below the point of exhaust.



Note

ANSI/AARST SGM-SF 2023 21 Soil Gas Mitigation Standards for Existing Homes

2. Why is the proposed code change a reasonable solution?

The proposed change makes it easier to locate radon vent pipe exhaust points and brings MN code inline with the IRC and national radon mitigation standards without adding any costs to builders or occupants.

3. What other factors should the TAG consider?  
TBD

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.  
No
2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.  
NA
3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.  
NA
4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.  
No
5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.  
No

### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?  
  
Builders of newly constructed residential buildings and code officials.
2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.  
  
No. This proposal adds flexibility to existing code.
3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?  
  
Radon control method exhaust points will continue to be located at least 10 feet away from all openings into the conditioned space of the building and limit the number of approved locations.
4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.  
No

\*\*\*Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can be considered by the TAG.

## CODE CHANGE PROPOSAL FORM

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*Model Code:* 1303

*Telephone number:* 651-219-0785

*Code or Rule Section:* MN Rules 1303.2400-1303.2403

*Firm/Association affiliation, if any:* MN Dept. of Health

*Topic of proposal:* Radon (MN Rule 1303)

*Code or rule section to be changed:* 1303.2401 – clarify definition of “soil-gas membrane”

*Intended for Technical Advisory Group (“TAG”):* 1300, 1301, 1302, 1303

### General Information

**Yes   No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

### Proposed Language

1. The proposed code change is meant to:

change language contained the model code book? If so, list section(s).

1303.2401 “soil-gas membrane”

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in the model code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.  
No
3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striethrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

SOIL-GAS MEMBRANE. "Soil-gas membrane" means a continuous membrane of 6-mil (0.15 mm) polyethylene, or 3-mil (0.075 mm) cross-laminated polyethylene, in areas covered with poured concrete. In areas not covered with poured concrete, the membrane shall have a thickness of 12-mil (0.30 mm) or greater, and be sealed with compatible materials to maintain an air-tight cover of the gas-permeable material.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.  
No

### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

During inspections of radon mitigation systems, we often see areas of crawlspaces with exposed soil-gas membranes that are no longer airtight due to tears in the membrane. These areas are often used for storage and the occupants do not understand the purpose for keeping the membrane in good working order to maintain low radon levels.

2. Why is the proposed code change a reasonable solution?

While not very common in newly constructed dwellings, thicker membranes will have a better chance of standing up to traffic in crawlspace areas used for storage. This change will help ensure radon control methods have a better chance of working.

3. What other factors should the TAG consider?  
TBD

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.

This change will increase costs in the rare cases in dwellings where concrete is not poured on top of the soil-gas membrane.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

Thicker membranes are a little more than twice the material cost of the current thickness requirements. Latest check of one radon supply house has 6-mil poly priced at \$0.15 per square foot while 12-mil poly is priced at \$0.34 per square foot. The additional cost is dependent upon the size of the un-poured crawlspace. The additional sealing requirements on the edges of the barriers will be similar to caulking the poured slab – which is already required.

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.

The cost increase will likely be borne by the builder and then on to the buyer of the new residential building.

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.

Code officials will need to inspect the membrane thickness and seals. This review should only take a few minutes.

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.

No

### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?

Builders of newly constructed residential buildings and code officials.

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

One other option would be to require some sort of permanent protection of the membranes in areas that may be used for storage. But once the building is occupied, these protections may be moved or removed (extruded polystyrene boards, plywood, rugs, etc.). This proposal is the simplest means of protecting the long-term integrity of the radon control methods installed while still allowing for areas to not be poured concrete.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

We will continue to see 6-mil poly used in new construction that may not be robust enough in areas that will be used for storage. As a public health entity, we strongly believe these systems need to help control radon for the life of the home. By allowing less durable materials to be used, we may see increased radon levels in some dwellings.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.

No

\*\*\*Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can considered by the TAG.

**CODE CHANGE PROPOSAL FORM**

(Must be submitted electronically)

Author/requestor: Joshua Kerber

Date: 9/6/24

Email address: joshua.kerber@state.mn.us

Model Code: 1303

Telephone number: 651-219-0785

Code or Rule Section: MN Rules 1303.2400-1303.2403

Firm/Association affiliation, if any: MN Dept. of Health

Topic of proposal: Radon (MN Rule 1303)

Code or rule section to be changed: 1303.2402 Subp 5 D

Intended for Technical Advisory Group ("TAG"): 1300, 1301, 1302, 1303

**General Information**

**Yes**   **No**

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| D. Will the proposed change remedy a problem?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Proposed Language**

1. The proposed code change is meant to:

change language contained the model code book? If so, list section(s).

1303.2402 Subp 5 D

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in the model code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

add new language that is not found in the model code book or in Minnesota Rule.

2. Is this proposed code change required by Minnesota Statute? If so, please provide the citation.

No

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~striketrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

D. Vent pipe accessibility.

1) Radon gas vent pipes in the attic shall be provided with space around the vent pipe for future installation of a fan. The space required for the future fan installation shall be a minimum of 24 inches in diameter, centered on the axis of the vent pipe, and shall extend a minimum distance of 3 vertical feet.

Exception: Accessibility to the radon gas vent pipe is not required if the future fan installation is above the roof system and there is an approved rooftop electrical supply provided.

2) Radon Vent pipes near the connection to the gas permeable layer shall be provided with space around the vent pipe for future installation of system pressure gauge, system label, and active alert monitor. The space required shall be a minimum of 10 inches in diameter, centered on the axis of the vertical vent pipe, and shall extend a minimum distance of 12 vertical inches.

4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

No

### **Need and Reason**

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)

This proposal in response to issues we see in the field and those reported to MDH from our licensed radon mitigation professionals. Many times the radon vent pipe gets buried in a wall cavity and cannot be easily located by the occupant or contractor. Access to the vent pipe in the basement/utility room (nearest wherever it enters the gas permeable layer) is needed for the addition of the U-tube pressure gauge, system identification labels, and audible alarm when the passive system is activated. This proposal keeps the vent pipe accessible for easier activation in the future.

2. Why is the proposed code change a reasonable solution?

The proposal keeps access to the vent pipe so additional work is not needed further down the road if the occupant activates the system. In situations where the pipe is buried in a wall, drywall needs to be removed in order to find the vent pipe to finish activating the system. If the builders wants to bury the pipe in the wall, then use an access panel to allow access to the vent pipe.

3. What other factors should the TAG consider?

TBD

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.

No. It clarifies to leave the radon vent pipe accessible nearest where it connects to the gas permeable layer.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.

NA

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.

NA

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.

Code officials will need to check for vent pipe accessibility. This should only take a short moment.

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.

No

## **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?

Builders of newly constructed residential buildings and building code officials

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

No, leaving access to the vent pipe is the only means to achieve the purpose of the proposed change.

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

Yes, there will be additional costs incurred to occupants later if access to the radon vent pipe is not maintained because the radon contractor will need to hunt and find the radon vent pipe to properly activate the system.

4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.

No

\*\*\*Note: Incomplete forms may be returned to the submitter with instruction to complete the form. Only completed forms can be considered by the TAG.