

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Greg Metz

*Date:* 12/30/2020 Revised 1/26/2021

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Code or Rule Section:* 4.1.1.7 Prohibition of  
Conditioning Public Commercial Parking

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

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* IBC and IBC/IFC Coordination

### 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 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 checked="" type="checkbox"/> | <input 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).

Add: **4.1.1.7 Prohibition of Conditioning Public Commercial Parking**

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). **MR 1323.0100, Subpart 7. Prohibition of Conditioning Public Commercial Parking**

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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Delete Minnesota Rule 1323.0401, Subpart 2 Section C401.3 in its entirety.

Add ANSI/ASHRAE/IEC Standard 90.1, Section 4.1.1.7 to read as follows:

**4.1.1.7 Prohibition of Heating Public Commercial Parking.**

Heating of public commercial parking facilities for three or more vehicles is prohibited in accordance with Minnesota Statute 216C.20, subdivision 3, unless exceptions in statute apply.

Public commercial parking facility means a parking facility paid for and operated by tax dollars that is open to the general public for a parking fee or at no cost to the user.

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?

To ensure continued compliance with the ban on public commercial parking heating and to clarify the scope of the prohibition for more uniform enforcement.

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

It inserts the current rule language into the body of the model code where it is more likely to be found and followed. It clarifies exactly where the prohibition applies.

3. What other considerations should the TAG consider? None

**Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

No cost change. The modification carries forward an existing requirement.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
N/A

3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.

4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?  
  
None
6. What are the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?  
  
The requirement could be missed, heating equipment installed in public commercial parking garages at a waste of taxpayer dollars.
7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.  
  
No.
8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Greg Metz

Date: 1/26/2021

Email address: Greg.Metz@State.MN.US

Model Code:

ANSI/ASHRAE/IES Standard 90.1-2019

Telephone number: 651-284-5884

Code or Rule Section: 4.1.1.8 Change of Occupancy

Firm/Association affiliation, if any: DLI/CCLD

Code or rule section to be changed: MR 1323

Intended for Technical Advisory Group ("TAG"): IBC and IBC/IFC Coordination

### 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 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 checked="" type="checkbox"/> | <input 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).  
     Modify **MR 1323.0100, Subpart 5. Change of Occupancy or Use to Model code section 4.1.1.8 Change of Occupancy**
- 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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Modify Minnesota Rule 1323.0100, Subpart 4 to

Add ANSI/ASHRAE/IEC Standard 90.1, Section 4.1.1.8 to read as follows:

**4.1.1.8 Change of Occupancy or Use.** Spaces undergoing a change of occupancy that would result in an increase in demand for either fossil fuel or electrical energy shall comply with this code where alterations are being made. Alterations to the building envelope; Heating, Ventilating, Air Conditioning, and Refrigeration systems; service water heating; power; and lighting systems and equipment shall comply with the current requirements of this code. ~~Where the use in a space changes from one use in Table C405.3.2.(1) or (2) to another use in Table C405.3.2(1) or (2), the installed lighting wattage shall comply with Section C405.3.2.~~

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?

To clarify requirements specific to change of occupancy.

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

It clarifies that energy code improvements only need to take place where existing conditions are being altered, and the change of occupancy will require compliance with the current requirements and not a reduced standard which may be allowable for alterations not associated with a change of occupancy.

3. What other considerations should the TAG consider? None

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

No cost change. The modification carries forward an existing requirement, merely clarifying the existing language.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
N/A

3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.

4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?  
  
None
6. What are the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?  
  
The requirement could be missed, heating equipment installed in public commercial parking garages at a waste of taxpayer dollars.
7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.  
  
No.
8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Greg Metz

Date: 12/30/2020 Revised: 1/19/21

Email address: Greg.Metz@State.MN.US

Model Code:

ANSI/ASHRAE/IES Standard 90.1-2019

Telephone number: 651-284-5884

Code or Rule Section: 4.2.1.3

Firm/Association affiliation, if any: DLI/CCLD

Code or rule section to be changed: MR 1323

Intended for Technical Advisory Group ("TAG"): IBC and IBC/IFC Coordination

### 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 type="checkbox"/>            | <input checked="" type="checkbox"/> |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input checked="" type="checkbox"/> | <input 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).

**4.2.1.3 Alterations to Existing Buildings**

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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Alterations to an existing building, building system, or portion thereof shall conform to this code as related to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. Alterations shall not create an unsafe or hazardous condition or overload existing building systems. Alterations of existing buildings shall comply with the provisions of Sections 4.2.2 thorough 4.2.5 and one of the following:

- a. Section 5, “Building Envelope”; Section 6, “Heating, Ventilating, and Air Conditioning”; Section 7, “Service Water Heating”; Section 8, “Power”; Section 9, “Lighting”; and Section 10, “Other Equipment,” or
  - b. Section 11, “Energy Cost Budget Method,” or
  - c. Normative Appendix G, “Performance Rating Method.”
- in accordance with Section 4.2.1.1.

Exception to 4.2.1.3

A *historical building* that has been specifically designated as historically significant by the adopting authority or is listed in the National Register of Historic Places or has been determined to be eligible for listing by the U.S. Secretary of the Interior need not comply with these requirements shall comply with this code to the greatest extent possible without requiring alteration of elements or features determined to be historic by the historic authority having jurisdiction. Exempted components, elements, or systems shall be specifically identified by the designer as historic and exempt.

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?
  - Preamble added to this section from MR 1323.0100, Subpart 3 in order to eliminate that section and retain the material provisions/ allowances.
  - Elimination of the Performance Rating Method will remove a highly complex and very challenging compliance method to enforce and regulate. The Performance Rating Method includes and integrates items not part of the real-estate, like appliances, in calculating overall performance. Meaning that a change of appliances could bring a building into non-compliance at a later time.
  - Addition of language to exempt historic elements of historic buildings will ensure that even historic projects address energy conservation, but not to the extent of damaging the historic character of the building.
2. Why is the proposed code change a reasonable solution?
  - It integrates the previous guidance regarding alterations into the new model code context so that the information is all in one location.’
  - It reduces complexity of an already complex code.
  - Makes reasonable provisions for historic buildings without allowing a carte blanc exemption.



3. What other considerations should the TAG consider?

- MR 1300.0100, Subpart 3 exceptions which are added by amendment to Section 5.1.3.
- Inclusion of new language within the exception regarding historical buildings as defined by MR 1300.
- Elimination of the Performance Rating Method via Appendix G.

**Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

No cost change. Much of this amendment is integrating existing rule language into the model code. Elimination of the Performance Rating Method still provides two viable compliance options. Inclusion of language limiting the exemption for historic buildings may result in increases in initial construction costs.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.

The modification to only exempt historically significant elements or systems of historic buildings may result in increased construction costs in order to provide a more energy efficient building envelope or other systems that are not deemed historically significant. The overall cost increase is similar to that of other changes of occupancy or alteration.

3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.

4. 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? 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, Construction Contractors, Building Officials and Inspectors.

2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?

There should be no additional costs to state agencies.

3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.

4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.

5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?

Cost for determining if existing conditions are historically significant and integration of building envelope improvements and building systems improvements for non-historically significant elements.

6. What are the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?
  - Confusion because of language duplication and conflicting directions between the model code and the rule.
  - Not eliminating the Performance Rating Method will create an entire new energy compliance industry in Minnesota adding to the complexity of code enforcement, additional training, credentialing, and ultimately increasing construction costs.
  - Not including the specific exceptions within historic buildings will allow them to continue with a blanket exemption allowing all historic buildings to be altered and re-used without regard to energy conservation.
  
7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.

No.
  
8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

<i>Author/requestor:</i> Name	<i>Date:</i> 1/26/2021
<i>Email address:</i>	<i>Model Code:</i> ANSI/ASHRAE/IES Standard 90.1-2019
<i>Telephone number:</i>	<i>Code or Rule Section:</i> 1323.0100, Subp. 10
<i>Firm/Association affiliation, if any:</i>	ASHRAE 90.1, Section 4.2.5.1.1
<i>Code or rule section to be changed:</i>	
<i>Intended for Technical Advisory Group ("TAG"):</i> Commercial Energy Code TAG MR 1323	

### General Information

**Yes   No**

- |  |                          |                          |
|--|--------------------------|--------------------------|
| A. Is the proposed change unique to the State of Minnesota?                            | <input type="checkbox"/> | <input type="checkbox"/> |
| B. Is the proposed change required due to climatic conditions of Minnesota?            | <input type="checkbox"/> | <input type="checkbox"/> |
| C. Will the proposed change encourage more uniform enforcement?                        | <input type="checkbox"/> | <input type="checkbox"/> |
| D. Will the proposed change remedy a problem?  | <input type="checkbox"/> | <input type="checkbox"/> |
| E. Does the proposal delete a current Minnesota Rule, chapter amendment?               | <input type="checkbox"/> | <input type="checkbox"/> |
| F. Would this proposed change be appropriate through the ICC code development process? | <input type="checkbox"/> | <input 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).  
Change MR 1323.0100, Subpart 10 to incorporate the language into Model Code Section 4.2.5.1.1 Information on Building Permit Application
  - 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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Subp. 10.

**4.2.5.1.1 Information on construction documents.**

Construction documents shall be drawn to scale on suitable material. Electronic media documents are permitted to be submitted when approved by the building official. Construction documents shall indicate the location, nature, and extent of the work proposed, and show in detail pertinent data and features of the building, systems, and equipment as governed in this code. ~~The details shall include the following as applicable.~~ The following information shall be included in the construction documents as part of the building permit application package:

- a. insulation materials and their *R*-values;
  - b. fenestration *U*-factors and SHGCs;
  - c. area-weighted *U*-factor and SHGC calculations;
  - d. mechanical system design criteria;
  - e. mechanical and service water heating system and equipment types, sizes, and efficiencies;
  - f. economizer description; equipment and systems controls;
  - g. fan motor brake horsepower for fan motors one horsepower (hp) or larger;
  - h. fan motor horsepower and controls;
  - i. duct sealing, duct sizing, duct and pipe insulation and location, terminal air or water design flow rates;
  - j. electrical distribution diagram(s);
  - k. lighting fixture schedule with wattage and control narrative;
  - l. locations of daylight zones on plans and provisions for functional testing of lighting controls;
  - m. air sealing details clearly delineating the air barrier location and showing continuity between roof, wall, foundation, around frames and sleeves, and at other similar openings; and
  - n. additional details as required by the building official to determine whether the work proposed will conform to this code.
  - o. For systems that are required to comply with Section 4.2.5.1, the construction documents shall identify V & T providers.
  - p. V & T providers shall review the construction documents to verify that the relevant sensor locations, devices, and control sequences are properly specified; performance and testing criteria are included; and equipment to be tested is accessible for testing and maintenance.
  - q. FPT and verification processes and system performance requirements shall be incorporated into the construction documents.
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?  
To incorporate existing submittal requirements into the body of model code submittal requirements for plan review and permitting.
2. Why is the proposed code change a reasonable solution?

The proposed code change integrates existing submittal requirements with new model code submittal requirements.

3. What other considerations should the TAG consider? Allowing some sort of exception for verification and testing for smaller projects to control costs.

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.  
Model code unaltered language will increase construction costs.
2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
  
On site verification and testing after installation is a critical final step to ensure that building systems are operating as intended/designed. This process allows for final adjustments and ensures that various systems are operating together to ensure optimal energy efficiency.
3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.  
  
No. Verification testing reports should be made available for the building inspector at final inspection.
4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?
6. What are the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.
8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

\*\*\*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:* Greg Metz

*Date:* 12/31/2020

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Modify Section 5.1.2 Space Conditioning*

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

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* 1323 Minnesota Energy Code

### 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).  
**5.1.2 Space Conditioning**
  - 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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Modify the exception to 5.1.2.3 Space Conditioning as follows:

**Exception to 5.1.2.3** A space may be designated as either a semiheated space or an unconditioned space only if approved by the building official. Unconditioned and semi-heated spaces shall not be approved with automatic fire sprinkler systems unless those systems are designed to operate in below freezing temperatures. Semi-heated spaces shall be posted near the main entry location indicating the maximum Btu heating input permissible by the energy code. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or the owner's authorizing agent.

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?

There is a general assumption that a building designed to meet the building envelope criteria of a semi-heated space will be able to be kept above freezing. This is not true, even in the southern-most parts of Minnesota. The amount of heat allowed to be used to condition a semi-heated space is insufficient to keep it above freezing when given the reduced thermal envelope criteria. The exception clarifies the concern and requires posting so that owners don't simply add more heating equipment to what is supposed to be a low-energy-use space.

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

The proposed change identifies a current concern and posts notification so that the requirements remain clear into the future, at the cost of a sign. The cost for a dry sprinkler system is not additional because the dry sprinkler system would be required under the basic criteria.

3. What other considerations should the TAG consider? None

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

No Cost change (except for the cost of one sign.)

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
The increased costs are all offset by the energy savings.

3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.

4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?

There should be no additional costs to state agencies.

3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?

None

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

Continued construction of non-compliant semi-heated spaces that become equipped with more heating capacity than allowed by code so that the spaces don't freeze. Ultimately using more energy than a compliant building because of thermal losses through the reduced thermal envelope.

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

No.

8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Greg Metz

*Date:* 12/31/2020 *Revised:* 1/27/21

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Modify Section 5.1.3 Envelope Alterations*

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

Previous language found in C402.2.1.2

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* 1323 Minnesota Energy Code

### 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).  
**5.1.3 Envelope Alterations**

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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Exceptions to 5.1.3 shall be modified as follows:

3. Alterations to roof, wall or floor cavities that are insulated to full depth with insulation having a minimum nominal value of R-3.0/inch and having either integral vapor retarder qualities or a membrane vapor retarder with properties that allow drying to the interior installed to separate the insulation from the conditioned space in accordance with the Minnesota Building Code.

Exception 8 shall be deleted and replaced:

~~8. Replacement of existing fenestration, provided that the area of the replacement fenestration does not exceed 25% of the total fenestration area of an existing building and that the U-factor and SHGC will be equal to or lower than before the fenestration replacement.~~

8. Historical buildings undergoing renovations or a change of occupancy shall not be required to comply with the energy code for those portions or elements of the building determined by the historical authority having jurisdiction as contributing to the historic significance of the building and upon approval of the building official. Portions or components that can be modified to comply without impacting the historic significance of the building shall be modified to comply with the current requirements to the greatest extent possible.

Add Exception 9:

9. Where insulation is provided above the roof deck and the required R-value for a roof replacement cannot be provided because of existing structural capacity limitations or because of the thickness limitations that occur with the existing rooftop conditions, including heating, ventilation and air conditioning equipment, low door or glazing heights, parapet heights, or proper roof flashing heights, the maximum insulation compatible with the available space and existing rooftop conditions shall be installed, as approved by the building official. This exception shall be interpreted narrowly to address only significant thickness limitations and in no case shall the R-value of the roof insulation be reduced or the U-factor of the roof assembly be increased as part of the roof replacement. Roof insulation materials selected shall be of the highest R-value per inch of thickness available when tested at 25 ° F. Where the roof insulation will not comply with the minimum prescriptive insulation criteria, that portion of the building shall comply with Section 5.4.3.1.1 whole-building air leakage. Buildings that do not pass shall follow the procedure identified in Exception 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?

Exception 3: Insulation without a vapor retarder is worse than useless because it tends to trap moisture within the wall cavity and cause material degradation. Including a vapor retarder requirement in order to utilize the exception will ensure greater insulation efficiency and reduce building deterioration due to moisture damage.

Existing Exception 8: This exception is being eliminated because compliant window systems are readily available and the conservation code for existing buildings allows a one-for-one replacement with like-in-kind, so building owners will not be forced into reducing fenestration area. Eliminating the exception will mean that replacement windows will meet the current standards which is required for all other alterations work.

New Exception 8: This exception is being imported from the current rule, Section C402.2.1.2 so that existing roofs that do not have adequate freeboard to install fully compliant roof insulation can reduce their insulation levels to ensure positive drainage. There is additional new language requiring other energy improvements to the building where this exception is being used. Similar to the 20% rule for accessibility, the goal is to encourage overall energy efficiency upgrades to the current codes wherever possible when the roof that is being altered is being allowed to continue in non-compliance.

New Exception 9: This exception gives historic buildings relief from building envelope requirements where specific parts of the building are deemed historic and require maintaining the existing construction. The language is written to apply energy code criteria where it will not impact the historic character of the building in order to achieve best compliance while maintaining the historic character.

Exception 10: The current language simply allows non-compliance with minimum roof insulation requirements where the existing conditions present challenges. The added language includes structural capacity as a mitigating consideration and also adds a new requirement to test for air infiltration when the roof will not comply with the minimum insulation requirements.

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

Modification of Exception 3: This exception adds a vapor retarder requirement which is relatively inexpensive and ensures the effectiveness of the insulation.

Deletion of Exception 8: There is no reason to allow non-conforming new work for up to 25% of a brand new fenestration area. This existing amendment is counter to the Minnesota Conservation Code as well as providing a continuous loophole for avoidance.

New Exception 8: This new exception adopts and modifies existing rule language relaxing insulation requirements for existing roofs. The exception is necessary to ensure that existing roofs can safely provide positive drainage and not overburden the existing roof structure. An additional new requirement for supplemental energy conservation measures will help to ensure that this exception is used only when necessary, and when it is, that additional energy conservation measures are included elsewhere to help offset the energy loss through the continued non-compliant roof.

New Exception 9: There is currently no criteria for addressing historic buildings and energy code compliance. This exception will require some level of compliance where possible and still allow preservation of historic character.

Exception 10: Relocated from the Minnesota amendment at C402.2.1.2 the exception is modified to include limited structural capacity so that existing roofs with less than code required structural capacity will not be required to add weight to the roof by adding insulation. The air infiltration testing is added in order to mitigate the additional energy loss through the non-compliant new roof system. Air infiltration is the leading cause of energy loss in existing buildings. Requiring infiltration testing and sealing of identified air leaks will help to offset the energy loss through the roof.

## 3. What other considerations should the TAG consider? None

## **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

Exception 3: The cost increase to include a vapor retarder is minimal.

Deletion of Model Exception 8: No projected increase in cost. Most windows being installed comply with the codes now. There is really no premium to utilize code compliant windows over those that are not.

Addition of New Exception 8: There will be cost increases for existing buildings where the roofs can not comply with the current insulation requirements due to clearance issues. The cost savings from providing less insulation will be offset into making energy improvements in other areas of the building in order to 1) incentivize the roofing designers to do their best to make the roof compliant first, and 2) make those other improvements mandatory in order to offset some of the energy loss through the non-compliant roof.

Addition of New Exception 9: The existing model code provides a blanket exemption for all historic buildings. There will be an increase in cost because the exception will now require energy code compliance where it does not affect the historic character of the building.

Exception 10: This existing code language is modified to include structural capacity challenges which will tend to lower construction costs. In order to offset the energy loss through an under insulated roof, portions of the building undergoing reroofing with under-insulated roof conditions will be required to provide an air infiltration test and building sealing. There will be some additional costs to test and seal the building which will be quickly offset by energy savings.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. The increased costs are all offset by the energy savings.
3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.
4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?

There should be no additional costs to state agencies.

3. Are there less costly intrusive methods for achieving the purpose of the proposed rule? No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.

No.

5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?

Need further study on probable costs to building owners.

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

Exception 3: Continued degradation of buildings having insulation but no vapor retarders to protect the wall cavities from moisture.

Exception 8 deletion: Buildings with new work that does not conform to the current code requirements and phased projects to allow complete renovation of a building over a period of time with no energy code compliance.

Exception 8 New: Continued non-compliant roof replacements with no incentives to improve the existing conditions, resulting in continuing underperformance of existing buildings.

Exception 9: Continued renovation and adaptive re-use of historic buildings with no regard to energy code. Many of these adaptive re-use projects are for low-income housing which means that those who can least afford higher energy bills going into the future will be saddled with substandard housing.

Exception 10: Existing buildings with non-compliant roofs will continue to be in non-compliance with no improvement whatsoever in energy performance.

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

No.

8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Greg Metz

*Date:* 1/27/21

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Code or Rule Section:* Exceptions to 5.4.3.3

*Firm/Association affiliation, if any:*

*Code or rule section to be changed:*

*Intended for Technical Advisory Group ("TAG"):* Commercial Energy Code TAG MR 1323

### 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"/> |
| 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).  
Exceptions to 5.4.3.3
  - 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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

### **Exceptions relocated to 5.4.3.3.1**

#### **Exceptions to 5.4.3.3**

- ~~1. Doors not intended to be used as a *building entrance*.~~
  - ~~2. Doors opening directly from a *dwelling unit*.~~
  - ~~3. *Building entrances* in buildings located in Climate Zone 1 or 2.~~
  - ~~4. Doors opening into *semiheated* spaces.~~
  - ~~5. Enclosed elevator lobbies for *building entrances* directly from parking garages.~~
  - ~~6. *Building entrances* in buildings that are located in Climate Zone 3, where the *building* is less than four stories above grade and less than 10,000 ft<sup>2</sup> in gross conditioned floor area.~~
  - ~~7. *Building entrances* in buildings that are located in Climate Zone 0, 4, 5, 6, 7, or 8, where the *building* is less than 1,000 ft<sup>2</sup> in gross conditioned floor area.~~
  - ~~8. Doors that open directly from a space that is less than 3000 ft<sup>2</sup> in area and is separate from the *building entrance*.~~
  - ~~9. Self-closing doors in *buildings* in Climate Zone 0, 3, and 4 that have an air curtain complying with Section 10.4.5.~~
  - ~~10. Self-closing doors in *buildings* 15 stories or less in Climate Zones 5 through 8 that have an air curtain complying with Section 10.4.5.~~
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?

The exceptions where originally located apply to the entire section and not merely the scoping language found in 5.4.3.3.1. The current location is confusing and can easily be mis-interpreted as applying only to Section 5.4.3.3.3.

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

Repositioning of the exceptions will ensure that they are appropriately applied. Minor modifications provide better clarity as to the actual applicability of the exceptions.

3. What other considerations should the TAG consider?  
None.

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

No cost change.

The relocation of the exceptions will actually save money by eliminating confusion over whether vestibule requirements can be waived or not.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.



N/A

3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.  
No cost change.
4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?  
None.
6. What are the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

Continued confusion regarding the requirement for vestibule doors at side-hinged exterior doors that flank revolving doors.

Increased energy costs because of breaches in the building continuous air barrier.

7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.  
No
8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

\*\*\*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:* Greg Metz

*Date:* 1/27/21

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Code or Rule Section:* 5.4.3.3.1 Vestibule  
Location

*Firm/Association affiliation, if any:*

*Code or rule section to be changed:*

*Intended for Technical Advisory Group ("TAG"):* Commercial Energy Code TAG MR 1323

### 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"/> |
| 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).  
5.4.3.3.1 Vestibule Location
  - 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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

#### **5.4.3.3.1 Location**

Building entrances that separate conditioned space from the exterior shall have one of the following:

- a. An enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices, or
- b. A revolving door or doors opening into a vestibule or directly into the conditioned space where other doors from the same conditioned space and leading to the exterior, when provided, are provided with an enclosed vestibule.
- ~~c. A combination of (a) and (b).~~

#### **Exceptions to 5.4.3.3.1**

1. Doors not ~~intended to be used~~ defined as a *building entrance*.
  2. *Doors* opening directly from a *dwelling unit*.
  3. *Building entrances* in buildings located in Climate Zone 1 or 2.
  4. *Doors* opening into *semiheated* spaces.
  5. Enclosed elevator lobbies for *building entrances* directly from parking garages.
  6. *Building entrances* in buildings that are located in Climate Zone 3, where the *building* is less than four stories above grade and less than 10,000 ft<sup>2</sup> in gross conditioned floor area.
  7. *Building entrances* in buildings that are located in Climate Zone 0, 4, 5, 6, 7, or 8, where the *building* is less than 1,000 ft<sup>2</sup> in *gross conditioned floor area*.
  8. *Doors* that open directly from a space that is less than 3000 ft<sup>2</sup> in area and ~~is separate from the~~ are not defined as a building entrance.
  9. Self-closing doors in *buildings* in Climate Zone 0, 3, and 4 that have an air curtain complying with Section 10.4.5.
  10. Self-closing doors in *buildings* 15 stories or less in Climate Zones 5 through 8 that have an air-curtain complying with Section 10.4.5.
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?

Designers have interpreted that if a revolving door is provided, a vestibule is not necessarily required for flanking doors that lead directly to the exterior.

The exceptions where originally located would only eliminate the requirement for a continuous air barrier but not eliminate the requirement for a vestibule. Providing a continuous air barrier at the exterior wall envelope is more important for saving energy than providing a vestibule.

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

The proposed change clarifies the intent of the code that there is always an infiltration control measure at building entrances unless one of the specific exceptions is met.

The exceptions are more applicable and more cost effectively applied to complete elimination of vestibule construction where they are less necessary.

3. What other considerations should the TAG consider?  
None.

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

No cost change. The vestibules associated with doors flanking revolving doors are currently required and simply mis-interpreted as exempt. The language clarifies the required condition.

The relocation of the exceptions will actually save money by eliminating the requirement for constructing vestibules where they are demonstrated to be less effective, rather than simply waiving the requirement that the exterior surfaces comply with the continuous air barrier requirements, and still requiring vestibule construction.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
No.
3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.
4. 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? 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.

### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?  
Architects, Engineers, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?  
None.
6. What are the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?

Continued confusion regarding the requirement for vestibule doors at side-hinged exterior doors that flank revolving doors.

Increased energy costs because of breaches in the building continuous air barrier.

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

No

8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

\*\*\*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:* Greg Metz

*Date:* 1/4/2020

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Modify Section 5.5.3.1 Roof Insulation*

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

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* 1323 Minnesota Energy Code

### 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"/> |
| 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).  
**5.5.3.1 Roof Insulation**

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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Modify 5.5.3.1 Roof Insulation as follows:

### **5.5.3.1 Roof Insulation**

All roofs shall comply with the insulation values specified in Tables 5.5-0 through 5.5-8. Skylight curbs, mechanical curbs, and other roof curbs shall be insulated to the level of roofs with insulation entirely above deck or ~~R-5.0~~ R-10, whichever is less.

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?

Skylight and equipment curbs are a major thermal bridge/heat loss location costing energy resources and contributing to interior condensation and microbial growth. Equipment curbs are currently not even addressed in the code. Increasing the thermal resistance will significantly mitigate both the heat loss and the condensation development.

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

Equipment curbs insulated to R-10 are readily fabricated, and prefabricated curbs to the same insulation level are available. Ducts from rooftop units that pass through curbs are not required to be insulated, but ducts that are exposed to the exterior are required to be insulated to a minimum R-12. Were there no curb, the duct would be insulated to R-12 instead of R-5. It is reasonable to require at least R-10 which is available with 2 inches of extruded polystyrene foam insulation.

3. What other considerations should the TAG consider? Ductwork from rooftop units typically pass through the curb area with minimal insulation, yet the curb is directly exposed to the exterior. Increasing the thermal resistance to R-10 more closely approximates the R-12 required for ducts exposed to the exterior as found in Table 6.8.2. Curbs for flues and kitchen exhaust would be exempted.

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

Minimal cost increase.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. The increased costs are easily offset by the energy savings. The additional insulation will keep the inside of the curbs dry during cold weather and reduce moisture related microbial growth and wetting of other building materials.
3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.
4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?

There should be no additional costs to state agencies.

3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?

Cost of an insulated curb is minimal.

6. What are the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?  
  
Continued perpetuation of moisture related damage within buildings due to condensation build-up during cold weather, and continued energy losses through under-insulated curbs.
7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.

No.

8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A



## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Greg Metz

Date: 1/4/2020

Email address: Greg.Metz@State.MN.US

Model Code:

ANSI/ASHRAE/IES Standard 90.1-2019

Telephone number: 651-284-5884

Modify Section 5.5.3.2 Above Grade Wall  
Insulation

Firm/Association affiliation, if any: DLI/CCLD

Code or rule section to be changed: MR 1323

Intended for Technical Advisory Group ("TAG"): 1323 Minnesota Energy Code

### 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"/> |
| 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).

**5.5.3.2 Above Grade Wall Insulation**

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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Modify 5.5.3.2 Above Grade Wall Insulation as follows:

### **5.5.3.2 Above Grade Wall Insulation**

All above-grade walls shall comply with the insulation values specified in Tables 5.5-0 through 5.5-8.

---

#### **Exception to 5.5.3.2**

Alternatively, for mass walls, where the requirement in Tables 5.5-0 through 5.5-8 is for a maximum assembly U-0.151 followed by footnote “b,” ASTM C90 concrete block walls, un-grouted or partially grouted at 32 in. or less on center vertically and 48 in. or less on center horizontally shall have un-grouted cores filled with material having a thermal conductivity of 0.44 Btu in./h ft<sup>2</sup> F. Other mass walls with integral insulation shall meet the criteria when their U-factors are equal to or less than those for the appropriate thickness and density in the “Partly Grouted, Cells Insulated” Column of Table A3.1-3.

---

When a wall consists of both above-grade and below-grade portions, the entire wall for that story shall be insulated on either the exterior ~~or the interior~~ or be integral.

- ~~a. If insulated on the interior, the wall shall be insulated to the above-grade wall requirements.~~
- b. ~~If insulation is on the exterior or integral,~~ The below-grade wall portion shall be insulated to the below-grade wall requirements, and the above-grade wall portion shall be insulated to the above-grade wall requirements

~~In addition, for Climate Zone 0, above-grade walls shall comply with one of the following:~~

- ~~a. For east and west walls, a minimum of 75% of the opaque wall area shall have a minimum SRI of 29. For the portion of the opaque wall that is glass spandrel area, a minimum solar reflectance of 29% determined in accordance with NFRC 300 or ISO 9050 shall be permitted. Each wall is allowed to be considered separately.~~
- ~~b. For east and west walls, a minimum of 30% of the above-grade wall area shall be shaded through the use of shade providing plants, man-made structures, existing buildings, hillsides, permanent building projections, on-site renewable energy systems, or a combination of these. Shade coverage shall be calculated at 10 a.m. for the east walls and 3 p.m. for the west walls on the summer solstice. The building is allowed to be rotated up to 45 degrees to the nearest cardinal orientation for purposes of calculations and showing compliance.~~

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?

There is typically a significant thermal short circuit that occurs at the top of a foundation wall when transitioning to the above grade construction condition. Moving the insulation to be on the exterior side or integral to the wall will reduce or eliminate this thermal short circuit. In addition, moving the insulation to either the exterior or an integral part of the exterior wall will significantly reduce the likelihood of condensation on the interior surfaces thereby ensuring better indoor air quality.

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

Insulation on either the exterior or the interior requires a finish. Moving the insulation toward the exterior reduces or eliminates the thermal short circuit at the top of the foundation wall.

3. What other considerations should the TAG consider? Moisture control, microbial growth mitigation, potential complexity in exterior finish treatment at grade.

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

Minimal cost increase due to potential for additional exterior insulation protection at grade.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
The increased costs are easily offset by the energy savings and reduction in moisture damage to building materials.
3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.
4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?

Potential incremental cost of exterior insulation protection at grade.

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

Continued perpetuation of moisture related damage within buildings due to condensation build-up during cold weather, and continued energy losses through thermal short circuits at foundation wall to floor/exterior wall transition.

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

No.

8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Greg Metz

*Date:* 1/4/2020

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Modify Section 5.5.3.3 Below-grade Wall Insulation*

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

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* 1323 Minnesota Energy Code

### 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"/> |
| 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).  
**5.5.3.3 Below Grade Wall Insulation**
  - 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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Modify 5.5.3.3 Below-grade Wall Insulation as follows:

### **5.5.3.3 Below Grade Wall Insulation**

Below-grade walls shall have a rated R-value of insulation no less than the insulation values specified in Tables 5.5-0 through 5.5-8. Walls shall be insulated on the exterior side of the wall or integral to the wall.

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?

There is typically a significant thermal short circuit that occurs at the top of a foundation wall when transitioning to the above grade construction condition. Moving the insulation to be on the exterior side or integral to the wall will reduce or eliminate this thermal short circuit. In addition, moving the insulation to either the exterior or an integral part of the exterior wall will significantly reduce the likelihood of condensation on the interior surfaces thereby ensuring better indoor air quality.

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

Insulation on either the exterior or the interior requires a finish. Moving the insulation toward the exterior reduces or eliminates the thermal short circuit at the top of the foundation wall.

3. What other considerations should the TAG consider? No

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

Minimal cost increase.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
The increased costs are easily offset by the energy savings. The additional insulation will keep the inside of the curbs dry during cold weather and reduce moisture related microbial growth and wetting of other building materials.

3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.

4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?  
  
Potential incremental cost of exterior insulation protection at grade.
6. What are the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?  
  
Continued perpetuation of moisture related damage within buildings due to condensation build-up during cold weather, and continued energy losses through thermal short circuits at foundation wall to floor/exterior wall transition.
7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.  
  
No.
8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Greg Metz

Date: 1/4/2020

Email address: Greg.Metz@State.MN.US

Model Code:

ANSI/ASHRAE/IES Standard 90.1-2019

Telephone number: 651-284-5884

Modify Section 5.5.3.5 Slab-on-grade Floor Insulation

Firm/Association affiliation, if any: DLI/CCLD

Code or rule section to be changed: MR 1323

Intended for Technical Advisory Group ("TAG"): 1323 Minnesota Energy Code

### 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"/> |
| 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).

**5.5.3.5 Slab-on-Grade Floor Insulation**

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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Modify 5.5.3.5 Slab-on-grade floor Insulation as follows:

#### **5.5.3.5 Slab-on-Grade Floor Insulation**

All slab-on-grade floors including heated slab-on-grade floors and unheated slab-on-grade floors, shall comply with the insulation values specified in Tables 5.5-0 through 5.5-8. Perimeters shall be insulated on the exterior side of the slab foundation wall. All slab-on-grade floors in conditioned spaces shall have minimum R-5 continuous insulation under the slab.

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?

There is typically a significant thermal short circuit that occurs at the top of a foundation wall/slab edge when transitioning to the above grade construction condition. Moving the insulation to be on the exterior side will eliminate this thermal short circuit.

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

Moving the insulation toward the exterior eliminates the thermal short circuit at the top of the foundation wall/ slab edge. It is an easy low-tech solution.

3. What other considerations should the TAG consider? Requiring a minimum of R-5 under all slab-on-grade conditions. Ground temperatures are low enough that the slab condition even mid-building can represent a significant heat loss.

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

1. Will the proposed code change increase or decrease costs? Please explain.

Potential minimal cost increase to protect exterior insulation from ultraviolet exposure.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
The increased costs are easily offset by the energy savings.

3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.

4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?

There should be no additional costs to state agencies.

3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?

Potential incremental cost of exterior insulation protection at grade.

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

Continued significant energy loss at the building perimeter foundation connection. Perpetuation of moisture related damage at the base of wall due to condensation build-up during cold weather.

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

No.

8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Greg Metz

*Date:* 1/27/21

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Modify Section 5.5.3.7 Below Grade Slab-on-Ground Insulation*

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

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* 1323 Minnesota Energy Code

### 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 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"/> |
| 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.

#### **5.5.3.7 Below Grade Slab-on-Ground Floor Insulation**

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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

#### **5.5.3.7 Below Grade Slab-on-Ground Floor Insulation**

All slab-on-ground floors more than 24 inches below finished grade shall have a minimum R-5 continuous insulation below the slab.

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?

Soil temperatures in Minnesota average approximately 45 degrees throughout the year. This represents a significant source of heat loss during the heating season. In addition, during the summer months, the uncontrolled cooling effect is accompanied by uncontrolled condensation leading to dampness and potential microbial growth.

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

Insulating floor slabs below ground will mitigate energy loss through the slab during the heating season and allow the slab to stay warmer in the summer, thereby mitigating dampness below grade.

3. What other considerations should the TAG consider? Increasing the R-value to R-10 in Zone 7 where soil temperatures are even colder.

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

1. Will the proposed code change increase or decrease costs? Please explain.

R-5 insulation is approximately \$0.62/sf and R-10 insulation costs approximately \$0.81/sf.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.

The increased costs are easily offset by the energy savings.

- With R-5 insulation, the annual energy savings for a 1000 sf basement is \$350 with a return on investment for the insulation in 3.5 years.
- With R-10 insulation, the annual energy savings for a 1000 sf basement is \$375 with a return on investment for the insulation in 4.3 years.

3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.

4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?  
  
Potential incremental cost of exterior insulation protection at grade.
6. What are the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?  
  
Continued significant energy loss at the building perimeter foundation connection. Perpetuation of moisture related damage at the base of wall due to condensation build-up during cold weather.
7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.  
  
No.
8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Greg Metz

Date: 1/4/2020

Email address: Greg.Metz@State.MN.US

Model Code:

ANSI/ASHRAE/IES Standard 90.1-2019

Telephone number: 651-284-5884

Modify Section 6.1.1.3.6 Alterations to Existing Buildings- Rooftop HVACR

Firm/Association affiliation, if any: DLI/CCLD

Code or rule section to be changed: MR 1323

Intended for Technical Advisory Group ("TAG"): 1323 Minnesota Energy Code

### 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 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"/> |
| 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.  
**6.1.1.3.1.6 Rooftop HVACR**

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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Add 6.1.1.3.6 Rooftop HVACR as follows:

**6.1.1.3.1.6 Rooftop HVACR**

New and replacement rooftop equipment shall be provided with new insulated curbs in accordance with Section 5.5.3.1 of sufficient height to allow roof replacement with insulation thickness to comply with Tables 5.5-6 and 5.5-7.

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?

Minnesota currently has an exception that allows sub-standard insulation when mechanical equipment curbs or other drainage components do not allow full depth of roof insulation at roof replacement. This section will prevent the perpetuation of non-compliance when rooftop mechanical equipment is not replaced at the same time that roof replacement occurs.

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

The intent of the Conservation Code for Existing Buildings is to move buildings toward compliance as alterations occur. Since curbs are directly related to the rooftop mechanical equipment and would not be installed otherwise, it is right to require their replacement with compliant work when the overall equipment is being replaced so that a future roof replacement can also be done in a compliant manner.

3. What other considerations should the TAG consider? None.

**Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

Potential increase in cost for new insulated mechanical curbs and roof patching where curbs are replaced.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
The increased costs are easily offset by the future energy savings of a fully compliant roof replacement.

3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.

4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?  
  
Potential incremental cost of providing new insulated curbs and cost of installation flashing them into the existing roof system.
6. What are the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?  
  
Continued significant energy loss at the building roof in perpetuity because it is rare when mechanical equipment is replaced at the same time that roofing is replaced.
7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.  
  
No.
8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A



## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Greg Metz

*Date:* 1/6/2021

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Modify 6.5.6.1.2 Energy Recovery- Spaces other than non-transient dwelling units- Exception 6*

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

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* 1323 Minnesota Energy Code

### 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 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).  
**Exceptions to 6.5.6.1.2**      Exception 6
- 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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

#### **Exceptions to 6.5.6.1.2-**

Exception 6. ~~Where the sum of the airflow rates exhausted and relieved within 20 ft of each other is less than 75% of the design outdoor airflow rate, excluding Exhaust air that is:~~

- a. Used for another energy recovery system,
  - b. Not allowed by ASHRAE/ASHE Standard 170 for use in energy recovery systems with leakage potential, or
  - c. Of Class 4 as defined in ASHRAE Standard 62.1.
  - d. Up to 25% of the design outdoor airflow rate.
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?  
The current exception 6 is a loophole used to circumvent energy recovery simply by decentralizing exhaust systems across the building.
2. Why is the proposed code change a reasonable solution?  
The code intent is to recover energy from conditioned air before discharging from the building. Modifying this exception to require recapture of energy from at least 75% of the exhaust/relief air while allowing up to 25% of incidental building exhaust to be discharged without energy recovery is a reasonable solution that meets the intent of the model code.
3. What other considerations should the TAG consider? None

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

1. Will the proposed code change increase or decrease costs? Please explain.  
There will be an increase in construction costs.
2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
Energy recovery units can recapture up to 90% of the energy from outgoing air. For a small business with 50 employees such as office space, 7,500 square feet of office space will require
3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.
4. 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? 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.

A small business, like an office, with 50 employees will be approximately 7,500 square feet and require 700 cfm of outdoor ventilation air in accordance with the mechanical code. 75% of that is 525 cfm. The cost for a 525 cfm energy recovery unit is approximately \$3,500. Assuming natural

gas as the fuel source located in the twin cities (8,000 heating degree days), the anticipated cost savings on recovered energy is \$2,150/year providing a less than two-year payback.

## **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?  
Architects, Engineers, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There will be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?

Cost is dependent upon the size of the facility, but a small office for 50 persons can expect an added cost of approximately \$3,500 which will be recovered in the first two years of operation.

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

Designers will continue to utilize the current loophole to circumvent this initial construction cost at the expense of years of energy consumption. Higher operating costs to building owners, and occupants.

7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.  
  
No.
8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Greg Metz

*Date:* 1/5/2021

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Modify Section 5.1.3 Envelope Alterations*

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

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* 1323 Minnesota Energy Code

### 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 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.  
**7.1.1.3 Service Water Heating- Alterations to Existing Buildings**

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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

#### **7.1.1.3 Alterations to Existing Buildings**

Building service water-heating equipment installed as a direct replacement for existing building service water-heating equipment shall comply with the requirements of Section 7 applicable to the equipment being replaced. New, existing accessible piping within the work area, and replacement piping shall comply with Section 7.4.3. Where alterations replace storage water heaters, vertical pipe risers shall comply with Section 7.4.6.

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?  
Equipment is frequently replaced with no change to piping even where the piping is readily accessible. The proposed code change will significantly mitigate heat loss by insulating piping where it can be accessed, and installing heat traps when replacing water heaters so that heat is not lost into the existing water lines.
2. Why is the proposed code change a reasonable solution?  
It only requires installation of heat traps when the water heater is being replaced and the adjacent piping can be readily modified because it is already disconnected. The additional insulation on existing piping is only required in the work area and only required where piping is accessible, so the impact on existing conditions is minimal.
3. What other considerations should the TAG consider? None

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

1. Will the proposed code change increase or decrease costs? Please explain.  
  
There will be a slight increase in insulation cost for insulating some additional existing piping, and there will be a slight increase in water heater installation cost for replacement of units that pre-date the heat-trap requirement in the 2009 Minnesota Energy Code.
2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
The increased costs are all offset by the energy savings.
3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.
4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?

There should be no additional costs to state agencies.

3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?

None

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

Existing service hot water piping will continue to waste energy by leaching heat from hot water storage tanks.

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

No.

8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Greg Metz

*Date:* 1/6/2021

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Delete Section 8.4.2 Automatic Receptacle Control*

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

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* 1323 Minnesota Energy Code

### 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 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).  
**8.4.2 Automatic Receptacle Control**
- 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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

#### **8.4.2 Automatic Receptacle Control- Deleted**

The following shall be automatically controlled:

- ~~a. At least 50% of all 125V, 15 and 20 amp receptacles in all private offices, conference rooms, rooms used primarily for printing and/or copying functions, break rooms, classrooms, and individual work stations.~~
- ~~b. At least 25% of branch circuit feeders installed for modular furniture not shown on the construction documents.~~

This control shall function on

- ~~a. A scheduled basis using time-of-day operated control device that turns receptacles off at specific programmed times – an independent program schedule shall be provided for controlled areas of no more than 5,000 ft<sup>2</sup> and not more than one floor (the occupant shall be able to manually override the controlled device for up to two hours);~~
- ~~b. An occupancy sensor that shall turn receptacles off within 20 minutes of all occupants leaving a space; or~~
- ~~c. An automated signal from another control or alarm system that shall turn receptacles off within 20 minutes after determining that the area is unoccupied.~~

All controlled receptacles shall be permanently marked to visually differentiate them from uncontrolled receptacles and are to be uniformly distributed throughout the space. Plug-in devices shall not be used to comply with Section 8.4.2.

#### **Exceptions to 8.4.2**

Receptacles for the following shall not require an automatic control device:

- ~~1. Receptacles specifically designated for equipment requiring continuous operation (24/day, 365 days/year).~~
- ~~2. Spaces where an automatic control would endanger the safety or security of the room or building occupants.~~

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?  
Requiring automatically controlled receptacles perpetuates the use of electrical extension cords to by-pass the controls. Energy conservation education is a far safer method of achieving overall energy conservation rather than requiring the expense of extra circuits and controls for systems that are frequently bypassed.
2. Why is the proposed code change a reasonable solution?  
It significantly reduces the electrical construction costs through office and classroom spaces, reducing the wiring and number of circuits by half. Occupants are frustrated by outlets that “don’t work” because they can not be relied upon to provide continuous power. Elimination of these controlled outlets will reduce the number of extension cords and power strips used to by-pass the controls.
3. What other considerations should the TAG consider? None



## **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

There will be a decrease in construction costs.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
No increase.
3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.
4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There will be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?

None

6. What are the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?  
  
Increased risk of fire due to heightened extension cord use to by-pass the controlled outlets.
7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.

No.

8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A

## CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

*Author/requestor:* Greg Metz

*Date:* 12/30/2020

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Code or Rule Section:* Section 3.2 Definitions

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

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* 1323 Minnesota Energy Code

### 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 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 checked="" type="checkbox"/> | <input 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). 3.2 Definitions
  - change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).  
1323.0202 General Definitions: Building Entrance,
  - delete language contained in the model code book? If so, list section(s).  
3.2 Computer Room
  - delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).  
1323.0202 General Definitions: Infiltration, U-Factor,
  - 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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Modify definition of Building Entrance as follows:

**Building Entrance.** "Building entrance" means any doorway, set of doors, revolving door, vestibule, or other form of portal that is ordinarily used to gain access to the building ~~or to exit from~~ the building by its users and occupants. This does not include doors solely used to directly enter mechanical, electrical, and other building utility service equipment rooms.

Retain the Minnesota definition for Computer Room and delete the ANSI/ASHRAE/IEC Standard 90.1 definition for Computer Room.

**COMPUTER ROOM.** "Computer room" means a room whose primary function is to house equipment for the processing and storage of electronic data and that has a design electronic data equipment power density of greater than 20 watts per square foot (20 watts per 0.092 m<sup>2</sup>) of conditioned floor area or a connected design electronic data equipment load of greater than 10 kW. (difference underlined).

Delete Minnesota amendment defining "Infiltration." ANSI/ASHRAE/IEC Standard 90.1 is the same.

Delete Minnesota amendment defining "U-Factor." ANSI/ASHRAE/IEC Standard 90.1 is the same.

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?

The current language does not include administrative provisions and does not integrate with the body of Minnesota State Building Code chapters.

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

It incorporates the administrative provisions common to all Minnesota State Building Code chapters into the Minnesota Energy Code.

3. What other considerations should the TAG consider?

None.

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.  
More of a clarification than a code change. No anticipated increase in costs.
2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.
3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.

No increase in costs. The change is a clarification.

4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies and no effect on state revenue.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result. No.

5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?

No additional costs to comply with the revision.

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

The rule will reference model codes no longer adopted.

7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement. No.
8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

None.

\*\*\*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:* Greg Metz

*Date:* 12/31/2020 Revised 1/21/21

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Code or Rule Section:* 2 Scope

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

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* IBC and IBC/IFC Coordination

### 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 checked="" type="checkbox"/> | <input 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).    2 Scope

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). MR 1323.0100 Scope

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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

1323.0100 Subp. 2. ~~Scope. This code applies to commercial buildings, building sites, and the associated systems and equipment.~~ Repealed.

**2.1 This standard provides**

- a. minimum energy-efficient requirements for the design and construction, and a plan for operation and maintenance of
  - i. new buildings and their systems.
  - ii. new portions of buildings and their systems,
  - iii. new systems and equipment in existing buildings, ~~and~~
  - iv. new equipment or building systems specifically identified in the standard that are part of industrial or manufacturing processes,
  - v. all historical buildings as defined in Minnesota Rule 1300.00070, Subpart 12a,
  - vi. alterations to existing buildings, and
  - vii. existing buildings undergoing a change of occupancy
- and
- b. criteria for determining compliance with these requirements.

**2.2 The provisions of this standard do not apply to:**

- a. ~~single family houses, IRC-1 Single-family dwellings, IRC-2 Two-family dwellings, IRC-3 Townhomes, IRC-4 Utility buildings, or multi-family structures of three stories or fewer above grade, or~~ the portions of buildings containing occupancy groups I-1, R-1, R-2, R-3, R-4 where the entire composite building structure is three or fewer stories above grade.
- b. manufactured houses (mobile homes), and manufactured houses (modular), or,
- c. buildings that use neither electricity nor fossil fuel, nor site generated energy.

2.3 Adopt model code as written.

2.4 Adopt model code as written.

**2.5** IRC-1 Single-family dwellings, IRC-2 Two-family dwellings, IRC-3 Townhomes, IRC-4 Utility Buildings, and the portions of buildings containing occupancy groups I-1, R-1, R-2, R-3, and R-4 where the entire composite building structure is three or fewer stories above grade shall comply with Minnesota Rule 1322 the Minnesota Residential Energy Code.

**2.6** Where a building contains multiple occupancy groups and portions of the building are required to comply with Minnesota Rule 1322, those portions shall comply with Minnesota Rule 1322 the Minnesota Residential Energy Code and the remainder of the building shall comply with this code.

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?
  - 1. The term “commercial” does not adequately describe all of the building types within the code scope. For example, institutional buildings, and large residential buildings. The code scope is more all-encompassing and the revised description is more accurate.
  - 2. Historic buildings pose special challenges not readily addressed by the Minnesota Residential Energy Code. Affirmatively moving historic buildings to this code will provide more flexibility in code application.

3. Adding language to include alterations to existing buildings and changes of occupancy so that it is clear that those functions are within the scoping of this document. Compliance requirements are handled elsewhere.

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

It provides the greatest clarity for determining scope, and allows for much greater flexibility for historic buildings such as those at Fort Snelling.

3. What other considerations should the TAG consider?

The scope change allows integration of the Conservation Code for Existing Buildings for historic buildings used for residential purposes that are three stories or fewer in height. The residential energy code and conservation code are at odds with regards to preserving historic buildings undergoing a change of occupancy.

### **Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.  
No change or small decrease in construction costs for historical buildings.
2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
N/A
3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. N/A
4. 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? 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. N/A

### **Regulatory Analysis**

1. What parties or segments of industry are affected by this proposed code change?  
Architects, Engineers, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result. No
5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals? Historical buildings will require a professional analysis to determine best practices for improving non-historically protected areas.



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

Historical buildings used for residential purposes (common) that are three-stories and less will struggle to meet residential energy code requirements and have no compliance path for relief.

7. Are you aware of any federal regulation or federal requirement related to this proposed code change? If so, please list the federal regulation or requirement and your assessment of any differences between the proposed rule and the federal regulation or requirement.
8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

\*\*\*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:* Greg Metz

*Date:* 1/26/21

*Email address:* Greg.Metz@State.MN.US

*Model Code:*

ANSI/ASHRAE/IES Standard 90.1-2019

*Telephone number:* 651-284-5884

*Code or Rule Section:* 4.1.1.6 Mixed Occupancy

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

*Code or rule section to be changed:* MR 1323

*Intended for Technical Advisory Group ("TAG"):* MR 1323 Minnesota Energy Code

### 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 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 checked="" type="checkbox"/> | <input 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).  
**4.1.1.6 Mixed Occupancy Buildings**

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). **MR 1323.0100, Subpart 7. Mixed Occupancy Buildings**

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 words proposed to be deleted. Include the entire code (sub) section or rule subpart that contains your proposed changes.

Delete Minnesota Rule 1300.0100, Subpart 7 in its entirety.

~~**Subp. 7. Mixed Occupancy.** Where a building includes both residential and commercial occupancies, each occupancy shall be separately considered and meet the applicable provisions of IECC Commercial Provisions or IECC Residential Provisions.~~

Add ANSI/ASHRAE/IEC Standard 90.1, Section 4.1.1.6 to read as follows:

**4.1.1.6 Mixed occupancy.**

Where a building structure is more than three stories in height and includes both I-1, R-1, R-2, R-3 or R-4 occupancies and other occupancies, each occupancy shall be separately considered and meet the applicable provisions of this code. Where a building structure is three stories or less in height and includes both I-1, R-1, R-2, R-3 or R-4 occupancies and other occupancies, those portions associated with the I-1, R-1, R-2, R-3 or R-4 occupancies shall comply with Minnesota Rule 1322 and the remaining portions shall meet the applicable provisions of this code. For the purposes of interpreting this section, fire walls and horizontal assemblies shall not be considered to create separate buildings.

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?

There are varying energy compliance criteria for different building uses. When buildings are used for both residential and nonresidential purposes, there may be confusion regarding which criteria applies.

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

The proposed model code change section incorporates language similar to an existing Minnesota Rule Part, MR 1323.0100, subpart 7 and clarifies the application.

3. What other considerations should the TAG consider? None

**Cost/Benefit Analysis**

1. Will the proposed code change increase or decrease costs? Please explain.

No cost change. The modification carries forward an existing requirement.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain.  
N/A

3. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain. No.

4. 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? 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, Construction Contractors, Building Officials and Inspectors.
2. What are the probable costs to the agency and to any other State agencies of implementing and enforcing of the proposed rule? Is there an anticipated effect on state revenues?  
  
There should be no additional costs to state agencies.
3. Are there less costly intrusive methods for achieving the purpose of the proposed rule?  
No.
4. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.  
No.

5. What are the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals?

None

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

Mis-application of the residential provisions of MR 1323 for overall buildings scoped to MR 1323 which may have residential portions that are under 4 stories in height.

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

No.

8. Please include an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

N/A