DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Nick Erickson

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*Telephone number:*612-210-8332

Firm/Association affiliation, if any: Housing First MN

Code or rule section to be changed: (1309) R.303.10

Intended for Technical Advisory Group ("TAG"): IECC

Date: 3/17/2025

Model Code: IECC

Code or Rule Section: 1309

Topic of proposal: Commissioning

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

Proposed Language

1. The proposed code change is meant to:

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

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

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

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

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

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

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

   Heating systems shall be designed in accordance with R.303.10, with certification provided to the building official along with the building permit application. Installed heating systems shall be performance-tested to show compliance with design submitted at permit application. The system must perform within the manufacturer's specifications for Total External Static Pressure, Temperature Rise and airflow within plus or minus 20% or 25 CFM (whichever is greater) delivered to each room while on the Heating setting, in accordance with R.303.10. Documentation of testing results must be submitted to the building official prior to the issuance of the certificate of occupancy.

   NOTE THIS REQUIRES THE ADOPTION OF THE CORRELATION CODE CHANGE SUBMITTED

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.
   Possible connection to the administrative portions. But that will need to be determined by technical staff.

Need and Reason

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)
   Minnesota's home designs are becoming more complex, and homebuilders and their energy raters have reported that with the adoption of the 2024 IECC and beyond, performance path utilization will increase dramatically in MN. As Minnesota moves beyond the IECC standard through 2038, the performance path will be critical in achieving and consideration of affordability in the energy code.

   With performance path adoption increasing, there will be less predictability in the home design and code officials will need to know that these homes are built in accordance with their design. Much of this work is already being done in conjunction with the energy rater during their work in the home.

   This proposal not only

2. Why is the proposed code change a reasonable solution?
   This ensures that the system is installed and functioning as designed; the rater is most qualified to address this issue.

3. What other factors should the TAG consider?
   The amount of training and re-inspections due to the proliferation of the performance path will place stress on the building officials and general contractors. This is the approach taken in several other markets and does function well. This language itself was inspired by Fort Collins.

Cost/Benefit Analysis

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

   Depending on how homebuilders and their HVAC trade partners currently structure their contracts, there may be no increased cost specific to this provision.

   For homebuilders not currently requiring performance testing of heating systems in their contracts with HVAC trade partners there will be an added cost. The cost of this provision would depend on the size of the system, and with today's marker could range from $100 - $300.

   While not universal, performance testing heating systems is becoming a standard industry practice among builders, especially with production builders.

   When used as part of the performance path, the potential increased cost of performance testing is offset by the others savings provided in the performance path. Fewer materials will be used as the systems will be operating off properly sized equipment. Today, the standard practice is to oversize systems, leading to overbuilt systems which does add cost.

   Overall cost warranty claims, costs which can come after the home has been sold, will be reduced with systems that are properly sized and performance tested.

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

   Increased comfort and operation will be achievable because these systems will be property sized and designed. As the system will operate within manufacture specifications and to optimal conditions, the operating life of the system is likely to be extended, delaying replacement costs.

3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.
   The cost increase, in the situation in which it exists, would be incurred by the homebuilder.

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.
   If there is any added compliance or performance cost increase or decrease, it would de minimis as the inspector would need to review the performance testing results while conducting the final inspection.

5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed $25,000 for any one small business or small city (Minn. Stat. § 14.127)? A small business is any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.
   No, this specific provision does not include any changes that will $25,000 for any one small business or small city.

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
   Homebuilders, Energy Raters, Code Officials.

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.
   No

3. What are the probable costs or consequences of not adopting the code change, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals?
   Confusion as the performance path proliferates. Delays in permitting and inspections due to the varying approaches taken. Confusion around possible re-inspections and change orders caused by misinterpretation of the performance path design.

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

***Note: The information you provide in this code change proposal form is considered Public Data and used by the TAG to consider your proposed modification to the code. Any code change proposal form submitted to DLI may be reviewed at public TAG meetings and used by department staff and the Office of Administrative Hearings to justify the need and reasonableness of any proposed rule draft subject to administrative review and is available to the public.

****Note: Incomplete forms will be returned to the submitter with instruction to complete the form. Only completed forms will be accepted and considered by the TAG. The submitter may be asked to provide additional information in support of the proposed code change.

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Tim Manz

Date: 03/24/2025

Email address: timothy.manz@state.mn.us

Model Code: 2024 IMC

Telephone number: 651-284-5590

Code or Rule Section: IMC 1001 & 1002

Firm/Association affiliation, if any: DLI

Code or rule section to be changed: 2024 IMC Section 1001.2, 1001.3, 1001.4 & 1002.1

Intended for Technical Advisory Group ("TAG"):

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

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). IMC Sections 1001.2, 1001.3, 1001.4, 1002.1

   ☐ 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 ~~strikethrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.

1001.2 Scope; boilers; labor and industry.
Anyone who installs a boiler must ensure that the boiler is inspected by the Department of Labor and Industry pursuant to Minnesota Statutes, Section 326B.958 Subd. 1a. Boilers utilizing fuel gas systems with Btu/hr inputs that are rated at or below items 1 to 3 shall comply with IMC Section 1004 or IFGC Section 631 and shall be inspected by the local building official: ~~after installation is complete and before the boiler is placed in operation if the Btu input exceeds~~:

1. ~~A.~~ 100,000 Btu/hr for steam boilers;
2. ~~B.~~ 200,000 ~~500,000~~ Btu/hr capacity for hot water supply boilers; or
3. ~~C.~~ 750,000 Btu/hr individual or combined capacity for hot water heating boilers.

Exceptions: Boilers identified in Minnesota Statutes, Section 326B.988, including the following, are not subject to this section:

1. Boilers in buildings occupied solely for residential purposes with accommodations for not more than five families.
2. Boilers under the direct jurisdiction of the United States.
3. Boilers located on farms used solely for agricultural or horticultural purposes; for the purposes of this subpart, boilers used for mint oil extraction are considered used for agricultural or horticultural purposes, provided that the owner or lessee complies with the inspection requirements contained in Minnesota Statutes, Section 326B.958.

1001.2.1 Boilers referenced in IMC 1001.2 shall have a sticker attached indicating the following items have been inspected and accepted pursuant to Minnesota Statutes, Section 326B.958 Subd. 1a, prior to final approval by the local building official:

1. Emergency stop control
2. Carbon monoxide detector
3. Combustion air/ventilation air
4. Gas regulator venting
5. Boiler clearances
6. Safety relief valve
7. Venting from appliance to chimney
8. Fuel train
9. Expansion tank
10. Stop valve
11. Makeup water supply
12. Low water fuel cutoff
13. Circulation flow switch
14. Steam pressure control
15. High pressure limit with manual reset
16. High temperature limit with manual reset
17. Water temperature control

1001.3 Scope; pressure vessels; labor and industry.
The owner of a pressure vessel not specifically exempted by Minnesota Statutes, Section 326B.988, must ensure that the pressure vessel is inspected by an insurance company authorized to do business in the state or the Department of Labor and Industry at least every two years.
Exceptions: Pressure vessels identified in Minnesota Statutes, Section 326B.988, including the following, are not subject to this subpart:

1. Pressure vessels in buildings occupied solely for residential purposes with accommodations for not more than five families.
2. Pressure vessels under the direct jurisdiction of the United States.

3. Pressure vessels located on farms used solely for agricultural or horticultural purposes; for the purposes of this section, ~~boilers~~ pressure vessels used for mint oil extraction are considered used for agricultural or horticultural purposes, provided that the owner or lessee complies with the inspection requirements contained in Minnesota Statutes, Section 326B.958.

1001.4 High-pressure piping for boilers.
Pursuant to Minnesota Rules, Chapter 5230, and Minnesota Statutes, Sections 326B.90 to 326B.925, high-pressure piping for boilers shall be regulated by the Department of Labor and Industry for the following operating conditions:

1.~~A~~. Steam systems operating over 15 psi; or
2.~~B.~~ Hot water or other heating medium operating over 30 psi and 250° F (121°C).

1002.1 Scope; potable water heaters; labor and industry.
Anyone who installs a potable water heater must ensure that the water heater is inspected by the Department of Labor and Industry pursuant to Minnesota Statutes, Section 326B.958 Subd. 1a. Potable water heaters utilizing fuel gas systems with capacities at or below items 1 and 2 shall comply with Minnesota Rules 1346.1002.1.1 or IFGC Section 624 and shall be inspected by the local building official:

1.~~A~~. Btu/hr input of 200,000 Btu/hr; or
2.~~B~~. Nominal water capacity of 120 gallons.

Exceptions: Potable water heaters identified in Minnesota Statutes, Section 326B.988, including the following, are not subject to this section:

1. Potable water heaters in buildings occupied solely for residential purposes with accommodations for not more than five families.
2. Potable water heaters under the direct jurisdiction of the United States.
3. Potable water heaters located on farms used solely for agricultural or horticultural purposes; for the purposes of this subpart, potable water heaters used for mint oil extraction are considered used for agricultural or horticultural purposes, provided that the owner or lessee complies with the inspection requirements contained in Minnesota Statutes, Section 326B.958.

1002.1.1 Potable water heaters referenced in IMC section 1002.1 shall have a sticker attached indicating the following items have been inspected and accepted pursuant to Minnesota Statutes, Sections 326B.958 Subd. 1a, prior to final approval by the local building official:

1. Emergency stop control
2. Carbon monoxide detector
3. Combustion air/ventilation air
4. Gas regulator venting
5. Water heater clearances
6. Temperature and pressure relief valve
7. Venting from appliance to chimney

1002.1.1 Standards ~~General.~~
Potable water heaters and hot water storage tanks shall be listed and labeled and installed in accordance with the manufacturer's instructions, the *International Plumbing Code* and this code. Water heaters shall be capable of being removed without first removing a permanent portion of the building structure. The potable water connections and relief valves for all water heaters shall conform to the requirements of the *International Plumbing Code*. Domestic electric water heaters shall comply with UL 174 or UL 1453. Commercial electric water heaters shall comply with UL 1453. Oil-fired water heaters shall comply with UL 732. Solid-fuel-fired water heaters shall comply with UL 2523. Solar thermal water heating systems shall comply with Chapter 14 and ICC 900/SRCC 300.

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

Need and Reason

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)
   The purpose of these changes is to align with the Minnesota Boiler Code and to provide clarity on where the jurisdiction of a "state boiler inspector" supersedes the Minnesota Mechanical and Fuel Gas Code. This code change also specifies what items are required to be inspected by the "state boiler inspector" prior to final approval by the local building official.

2. Why is the proposed code change a reasonable solution?
   This concept has been used for many years in Minnesota Rules Chapter 1346 so this code change just updates the purpose and intent of these provisions.

3. What other factors should the TAG consider?
   None

Cost/Benefit Analysis

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.
   No change.

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

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

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

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

Regulatory Analysis

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

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the

alternatives are and why your proposed change is the preferred method or means to achieve the desired result.

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

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

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

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Chris Rosival

Email address: chris.rosival@state.mn.us

Telephone number: 651-284-5510

Firm/Association affiliation, if any: DLI

Code or rule section to be changed: M1502.4

Intended for Technical Advisory Group ("TAG"):

Date: 03/07/2025

Model Code: 2024 IRC

Code or Rule Section: M1502.4.2

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

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. M1502.4.2

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

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

   M1502.4.2 Duct installation. Exhaust ducts shall be supported at intervals not to exceed 12 feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in accordance with Section M1601.4.1 and shall be mechanically fastened. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

   Exception: Mechanical fasteners are not required when the duct is properly sealed per M1601.4.1, supported at intervals not to exceed 4 feet horizontally and secured in place.

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

Need and Reason

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)
   The current code allows 4 foot supports. The current code requires mechanical fastened joints with screws or similar fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct that will be very difficult to verify the fasteners do not penetrate the duct at no more than 1/8 inch. By allowing an alternate to the mechanical fasteners and supporting the duct at 4 foot, we will allow a more enforceable code.

2. Why is the proposed code change a reasonable solution?
   Verifying the correct fasteners would be very difficult.

3. What other factors should the TAG consider?

Cost/Benefit Analysis

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.
   No change to the 2024 code as the 2020 code has these requirements.

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

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

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

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

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
   Installers, builders and homeowners

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

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

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

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

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Chris Rosival

Email address: chris.rosival@state.mn.us

Telephone number: 651-284-5510

Firm/Association affiliation, if any: DLI

Code or rule section to be changed: M1503.6

Intended for Technical Advisory Group ("TAG"):

Date: 03/24/2025

Model Code: 2024 IRC

Code or Rule Section: M1503.6

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

Proposed Language

1. The proposed code change is meant to:

   ☒ change language contained the model code book? If so, list section(s).
   M1503.6, M1503.6.1 and M1503.6.2

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

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

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

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

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

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

M1503.6 Makeup air for new dwellings~~required~~. ~~Where one or more gas, liquid or solid fuel-burning *appliance* that is neither direct-vent nor uses a mechanical draft venting system is located within a *dwelling unit*'s air barrier, each exhaust system capable of exhausting in excess of 400 cubic feet per minute (0.19 m3/s) shall be mechanically or passively provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with not fewer than one outdoor air duct and damper complying with Section M1503.6.2.~~ Makeup air quantity for new and existing dwellings shall be determined by using Table M1503.6 and shall be supplied in accordance with Section M1503.6.4.

~~**Exception:** Makeup air is not required for exhaust systems installed for the exclusive purpose of space cooling and intended to be operated only when windows or other air inlets are open.~~

M1503.6.1 Makeup air ducts. ~~**Location.** Kitchen exhaust makeup air that is ducted from the outdoors shall be discharged into the same room in which the exhaust system is located or into rooms or *duct systems* that communicate through one or more permanent openings with the room in which such exhaust system is located. Such permanent openings shall have a net cross-sectional area not less than the required area of the makeup air supply openings.~~Makeup air ducts shall be constructed and installed according to Chapter 16.

M1503.6.2 Makeup air ~~dampers~~. termination restriction ~~Where makeup air is required by Section M1503.6, makeup air dampers shall comply with this section. Each damper shall be a gravity damper or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall be located to allow access for inspection, service, repair and replacement without removing permanent construction or any other ducts not connected to the damper being inspected, serviced, repaired or replaced. Gravity or barometric dampers shall not be used in passive makeup air systems except where the dampers are rated to provide the design makeup airflow at a pressure differential of 0.01 in. w.c. (3 Pa) or less~~. A makeup air opening shall not terminate in the return air plenum of a forced air heating system unless it is installed according to the heating appliance manufacturer's installation instructions.

M1503.6.3 Additions, alterations, or installations of mechanical systems in existing dwellings. When an exhaust system is installed with a rated capacity less than 300 CFM, combustion air for solid fuel, Category 1, 2 and 3 appliances must be verified to comply with Sections M1701.1 and G2407.

Makeup air shall be supplied to existing dwellings when either of the following conditions occur:

1. When an exhaust system with a rated capacity greater than 300 cfm is installed in an existing dwelling, makeup air quantity shall be determined by using Table M1503.6 and shall be supplied according to Section M1503.6.4.

   Exception: If powered makeup air is electrically interlocked and matched equal to the airflow of the exhaust system, additional makeup air is not required.
2. When a solid fuel appliance or Category 1 or 2 atmospheric appliance is added or replaced in an existing dwelling, makeup air quantity shall be determined by using Table M1503.6 and shall be supplied according to Section M1503.6.4.

   Exception: Adequate makeup air requirements for solid fuel or Category 1 and 2 atmospheric appliances can be confirmed by performing a nationally recognized test to verify safe operation of appliances. Documentation shall be provided that the vented combustion appliances continue to operate within established parameters of the test. Additional make up air must be provided if backdrafting or spillage occurs.

M1503.6.4 Makeup air supply. Makeup air shall be provided by one of the following methods:

1. Passive makeup air shall be provided by passive openings according to the following:
   1.1. Passive makeup air openings from the outdoors shall be sized according to Table M1503.6.1.
   1.2. Single passive openings larger than 8 inches (204 mm) diameter, or equivalent, shall be provided with a motorized damper that is electrically interlocked with the largest exhaust system.
2. Powered makeup air shall be provided if the size of a single opening or multiple openings exceeds 11 inches (280 mm) diameter, or equivalent, when sized according to Table M1503.6.1. Powered makeup air shall comply with the following:

2.1. Powered makeup air shall be provided with a motorized damper that is electrically interlocked with the largest exhaust system.
2.2. Powered makeup air shall be matched equal to the airflow of the largest exhaust system.
2.3. Powered makeup air shall be designed and installed to temper incoming air to not less than 40°F (4°C) measured at the point of distribution into the space.
2.4 Powered makeup air shall be supplied to the space containing the exhaust system and communicates with permanent openings to the combustion appliance location.

Table M1503.6
Procedure to Determine Make-Up Air Quantity for Exhaust Appliances in Dwellings

	One or Multiple Power Vent or Direct Vent Appliances or No Combustion Appliances (a)	One or Multiple Fan-Assisted Appliances and Power Vent or Direct Vent Appliances (b,e)	One Atmospherically Vented Gas or Oil Appliance or One Solid Fuel Appliance (c)	Multiple Atmospherically Vented Gas or Oil Appliances or Multiple Solid Fuel Appliances (d)
Method 1: Infiltration Amounts for New Dwellings				
a) Conditioned floor area in sq.ft. (include basement area)				
b) Assumed Tightness and Pressure Conversion Factor	**0.10**	**0.06**	**0.04**	**0.02**
c) Estimated House Infiltration Potential in cfm [1a x 1b]				
Method 2: Infiltration Amounts for Existing Dwellings (constructed after 1994)				
a) Conditioned Floor Area in sq.ft. (include basement area)				
b) Assumed Tightness and Pressure Conversion Factor	**0.15**	**0.09**	**0.06**	**0.03**
c) Estimated House Infiltration Potential in cfm [2a x 2b]				
Method 3: Infiltration Amounts for Existing Homes (constructed before 1994)				
a) Conditioned Floor Area in sq.ft. (include basement area)				
b) Assumed Tightness and Pressure Conversion Factor	**0.25**	**0.15**	**0.10**	**0.05**
c) Estimated House Infiltration Potential in cfm [3a x 3b]				
Method 4: Performance-Based Blower Test for New or Existing Dwellings				
a) Blower Door Measurement in cfm@50Pa				
b) Pressure Conversion Factor	**0.64**	**0.46**	**0.22**	**0.16**
c) Estimated House Infiltration Potential in cfm [4a x 4b]				
2. Determine Total Exhaust Capacity				
a) Clothes Dryer in cfm	170	170	170	170
b) Range Hood(g) in cfm (use rated flow)				
if no range hood, largest exhaust cfm (use rated flow)				
c) Next Largest Exhaust Device (g) in cfm (use rated flow)				
d) Total Rated Exhaust Flow in cfm [2a + 2b + 2c]				
e) Flow Rate Reduction	**0.80**	**0.80**	**0.80**	**0.80**
f) Total Exhaust Capacity in cfm				
3. Calculate the Make-Up Air Requirement				
a) Total Exhaust Capacity in cfm (from 2f above)				
b) Estimated House Infiltration Potential in cfm (from 1c)				
c) Required Make-Up Air Quantity (h) in cfm [3a - 3b]				
4. For Makeup Air Opening Sizing, refer to Table M1503.6.1				

(a) Use this column if there are direct vent or power vent appliances or if there are no combustion appliances
(b) Use this column if there is one or multiple fan-assisted appliance. Atmospherically vented appliances cannot be included.
(c) Use this column if there is one atmospherically vented appliance or one solid fuel appliance.
(d) Use this column if there are multiple atmospherically vented gas, oil or solid fuel appliances.
(e) Fan-assisted appliances are not Category 3 or 4 appliances.
(g) If recirculating system, do not add to the table.
(h) If value is negative, no makeup air is needed.

Table M1503.6.1 Makeup Air Opening Sizing Table for New and Existing Dwellings					
	One or Multiple Power Vent or Direct Vent Appliances or No Combustion Appliances (a)	One or Multiple Fan-Assisted Appliances and Power Vent or Direct Vent Appliances (b,g)	One Atmospherically Vented Gas or Oil Appliance or One Solid Fuel Appliance (c)	Multiple Atmospherically Vented Gas, or Oil Solid Fuel Appliances (d)	Passive Makeup Air Opening Duct Diameter (e)
Type of Opening or System	**(cfm)**	**(cfm)**	**(cfm)**	**(cfm)**	**(inches)**
Passive	1-36	1-22	1-15	1-9	3
Passive	37-66	23-41	16-28	10-17	4
Passive	67-109	42-66	29-46	18-28	5
Passive	110-163	67-100	47-69	29-42	6
Passive	164-232	101-143	70-99	43-61	7
Passive	233-317	144-195	100-135	62-83	8
Passive w/Motorized Damper	318-419	196-258	136-179	84-110	9
Passive w/Motorized Damper	420-539	259-332	180-230	111-142	10
Passive w/Motorized Damper	540-679	333-419	231-290	143-179	11
Powered Makeup Air (f)	>679	>419	>290	>179	Not Applicable
(a) Use this column if there are direct vent or power vent appliances or if there are no combustion appliances					
(b) Use this column if there is one or multiple fan-assisted appliance. Atmospherically vented appliances cannot be included.					
(c) Use this column if there is one atmospherically vented appliance or one solid fuel appliance.					
(d) Use this column if there are multiple atmospherically vented gas, oil or solid fuel appliances.					
(e) If flexible duct is used, increase the duct diameter by one inch and stretch with minimal sags.					
(f) Powered makeup air shall be electrically interlocked with the largest exhaust system.					
(g) Fan-assisted appliances are not Category 3 or 4 appliances.					

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

Need and Reason

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)
   The 2020 MMC has language in Section 501 that will be deleted because the residential makeup provisions will be contained in Section M1503.6 of the 2024 IRC.

2. Why is the proposed code change a reasonable solution?
   The makeup air tables are similar to what has been used in Minnesota since 2004 for residential dwelling units but have been updated slightly to correlate to the decreased leakage rate of exterior envelopes due to homes being constructed more tightly with more stringent energy codes.

3. What other factors should the TAG consider?
   The tables assume dwellings have house leakage curve with an exponent of 0.65, which was used to determine the various pressure conversion factors. The maximum allowable negative pressures are based on what type of combustion appliance is installed, and the values for the 4 columns are 25 Pascals, 15 Pascals, 5 Pascals and 3 Pascals. In addition, the assumed ACH50 values for new dwellings is 1.2, for dwellings built in 1994 or after is 1.8, and for dwellings built prior to 1994 is 3.0.

Cost/Benefit Analysis

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.
   These proposed code changes will generally decrease costs compared to the current code since most homes use direct vent appliances and they will not be required to provide tempered makeup air.

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

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

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

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

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
   Installers, builders and homeowners

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

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

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

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

Table M1503.6
Procedure to Determine Make-Up Air Quantity for Exhaust Appliances in Dwellings

	One or Multiple Power Vent or Direct Vent Appliances or No Combustion Appliances (a)	One or Multiple Fan-Assisted Appliances and Power Vent or Direct Vent Appliances (b,e)	One Atmospherically Vented Gas or Oil Appliance or One Solid Fuel Appliance (c)	Multiple Atmospherically Vented Gas or Oil Appliances or Multiple Solid Fuel Appliances (d)
Method 1: Infiltration Amounts for New Dwellings				
a) Conditioned floor area in sq.ft. (include basement area)				
b) Assumed Tightness and Pressure Conversion Factor	**0.10**	**0.06**	**0.04**	**0.02**
c) Estimated House Infiltration Potential in cfm [1a x 1b]				
Method 2: Infiltration Amounts for Existing Dwellings (constructed after 1994)				
a) Conditioned Floor Area in sq.ft. (include basement area)				
b) Assumed Tightness and Pressure Conversion Factor	**0.15**	**0.09**	**0.06**	**0.03**
c) Estimated House Infiltration Potential in cfm [2a x 2b]				
Method 3: Infiltration Amounts for Existing Homes (constructed before 1994)				
a) Conditioned Floor Area in sq.ft. (include basement area)				
b) Assumed Tightness and Pressure Conversion Factor	**0.25**	**0.15**	**0.10**	**0.05**
c) Estimated House Infiltration Potential in cfm [3a x 3b]				
Method 4: Performance-Based Blower Test for New or Existing Dwellings				
a) Blower Door Measurement in cfm@50Pa				
b) Pressure Conversion Factor	**0.64**	**0.46**	**0.22**	**0.16**
c) Estimated House Infiltration Potential in cfm [4a x 4b]				
2. Determine Total Exhaust Capacity				
a) Clothes Dryer in cfm	170	170	170	170
b) Range Hood(g) in cfm (use rated flow)				
if no range hood, largest exhaust cfm (use rated flow)				
c) Next Largest Exhaust Device (g) in cfm (use rated flow)				
d) Total Rated Exhaust Flow in cfm [2a + 2b + 2c]				
e) Flow Rate Reduction	**0.80**	**0.80**	**0.80**	**0.80**
f) Total Exhaust Capacity in cfm				
3. Calculate the Make-Up Air Requirement				
a) Total Exhaust Capacity in cfm (from 2f above)				
b) Estimated House Infiltration Potential in cfm (from 1c)				
c) Required Make-Up Air Quantity (h) in cfm [3a - 3b]				

Table M1503.6.1
Makeup Air Opening Sizing Table for New and Existing Dwellings

Type of Opening or System	One or Multiple Power Vent or Direct Vent Appliances or No Combustion Appliances (a) (cfm)	One or Multiple Fan-Assisted Appliances and Power Vent or Direct Vent Appliances (b,g) (cfm)	One Atmospherically Vented Gas or Oil Appliance or One Solid Fuel Appliance (c) (cfm)	Multiple Atmospherically Vented Gas, or Oil Solid Fuel Appliances (d) (cfm)	Passive Makeup Air Opening Duct Diameter (e) (inches)
Passive	1-36	1-22	1-15	1-9	3
Passive	37-66	23-41	16-28	10-17	4
Passive	67-109	42-66	29-46	18-28	5
Passive	110-163	67-100	47-69	29-42	6
Passive	164-232	101-143	70-99	43-61	7
Passive	233-317	144-195	100-135	62-83	8
Passive w/Motorized Damper	318-419	196-258	136-179	84-110	9
Passive w/Motorized Damper	420-539	259-332	180-230	111-142	10
Passive w/Motorized Damper	540-679	333-419	231-290	143-179	11
Powered Makeup Air (f)	>679	>419	>290	>179	Not Applicable

(a) Use this column if there are direct vent or power vent appliances or if there are no combustion appliances
(b) Use this column if there is one or multiple fan-assisted appliance. Atmospherically vented appliances cannot be included.
(c) Use this column if there is one atmospherically vented appliance or one solid fuel appliance.
(d) Use this column if there are multiple atmospherically vented gas, oil or solid fuel appliances.
(e) If flexible duct is used, increase the duct diameter by one inch and stretch with minimal sags.
(f) Powered makeup air shall be electrically interlocked with the largest exhaust system.
(g) Fan-assisted appliances are not Category 3 or 4 appliances.

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Chris Rosival

Email address: chris.rosival@state.mn.us

Telephone number: 651-284-5510

Firm/Association affiliation, if any: DLI

Code or rule section to be changed: M1504.4.4

Intended for Technical Advisory Group ("TAG"):

Date: 03/03/2025

Model Code: 2024 IRC

Code or Rule Section: M1505.4.4

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

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.
   M1505.4.4 Distribution

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

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

M1505.4.4 Distribution. A shared or dedicated ducted system shall supply *ventilation* air, and return or transfer air to the following spaces:

1. Bedrooms.
2. Each floor level not containing bedrooms, and the *ventilation* air supply must be located within the *habitable space*.
3. Unfinished basements, and the return air or transfer air shall be separated from the supply by ½ the diagonal dimension to avoid short circuit to conditioned space.
4. Conditioned *crawl space*, and the return air or transfer air shall be separated from the supply by ½ the diagonal dimension to avoid short circuit to conditioned space.

Commented [M1]: This text is optional in the 2024 IRC but is proposed as mandatory here, to replace the distribution requirements that are currently in MN Rules chapter 1322 Section R403.5.6.1.

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

Need and Reason

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

   The code change proposal the TAG approved from Mike Moore doesn't address crawlspaces.

   M1505.4.4 Distribution. A shared or dedicated ducted system shall supply ventilation air directly to each bedroom, to each floor level and to one or more of the following rooms:
   1. Living room.
   2. Dining room.
   3. Kitchen.

2. Why is the proposed code change a reasonable solution?
   Conditioned crawlspaces are not addressed in Mike Moore's CCP. The existing Residential Energy code has references to crawlspaces and need to be ventilated

3. What other factors should the TAG consider?

Cost/Benefit Analysis

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.
   No change as the existing Residential Energy Code has references

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

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

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

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

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
   Installers, builders and homeowners

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

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

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

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

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Brian Stemwedel

Date: 1/06/2025

Email address: Bstemwedel@goldenvalleymn.gov

Model Code: IRC (Fuel Gas)

Telephone number: (612)275-1436

Code or Rule Section: 2404.11

Firm/Association affiliation, if any: AMBO

Topic of proposal: Condensate Pumps

Code or rule section to be changed: Residential Fuel Gas Code M2404.11

Intended for Technical Advisory Group ("TAG"):

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

Proposed Language

1. The proposed code change is meant to:

   ☒ change language contained in the model code book? If so, list section(s).
   IRC M2404.11

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

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

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

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

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

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

M2404.11 Condensate Pumps

Condensate pumps located in uninhabitable spaces, such as attics and crawl spaces, shall be connected to the appliance or equipment served such that when the pump fails, the appliance or equipment will be prevented from operating. Pumps shall be installed in accordance with the manufacturer's instructions.
Exception: Condensing appliances used for heating shall not be prevented from operating upon failure of condensate pump.
M1411.10.1 Installation: Condensate pumps shall be protected from freezing and installed in an *approved* location. Condensate shall be conveyed to an approved place of disposal.

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

NO

Need and Reason

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

   Condensate pumps generally have a reservoir and a float switch to actuate pump. There is residual water in reservoir that when subjected to freezing temps will freeze and break pump housing creating a leak and rendering pump inoperative.

   Not shutting down condensing appliances used for heating may cause damage to structure due to leaking condensate, however, damage due to freezing pipes may be much worse. Might be a factor only when unoccupied, and most would notice heat was not working prior to pipes freezing.
2. Why is the proposed code change a reasonable solution?
   To mitigate potential for damage caused by water leaks, protecting pumps from freezing is a reasonable solution.

3. What other factors should the TAG consider?
   Approved locations to discharge condensate: Condensate shall not discharge in a location where freezing temps may cause a blockage to condensate line. AHJ's will hopefully keep this in mind where this potential exists.

Cost/Benefit Analysis

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.
   Potential for increased cost due to alternate installations protecting pumps from freezing.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.
   Reduced exposure to damage caused by broken equip. due to expansion of water upon freezing causing damage/ leaks.

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

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

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

Regulatory Analysis

1. What parties or segments of the industry are affected by this proposed code change?
   Contractors, Code Officials, Designers, installers

2. Can you think of other means or methods to achieve the purpose of the proposed code change? What might someone opposed to this code change suggest instead? Please explain what the alternatives are and why your proposed change is the preferred method or means to achieve the desired result.
   Do not allow condensing appliances to be installed in unconditioned space(s)

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

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

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

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Chris Rosival

Date: 03/13/2024

Email address: chris.rosival@state.mn.us

Model Code: 2024 IRC

Telephone number: 651-284-5510

Code or Rule Section: G2451

Firm/Association affiliation, if any: DLI

Code or rule section to be changed: 2024 IRC Section G2451.1

Intended for Technical Advisory Group ("TAG"):

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

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. G2451.1

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

3. Provide *specific* language you would like to see changed. Indicate proposed new words with underlining and ~~strikethrough~~ words proposed for deletion. Include the entire code (sub) section or rule subpart that contains your proposed changes.
   G2451.1 (630.1) General. Infrared radiant heaters shall be listed in accordance with ANSI Z83.19 or ANSI Z83.20 and shall be installed in accordance with the manufacturer's instructions**.**
   Unvented Infrared radiant heaters shall not be installed in any dwelling or occupancy.
4. Will this proposed code change impact other sections of a model code book or an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

Need and Reason

1. Why is the proposed code change needed? Please provide a general explanation as well as a specific explanation for any changes to numerical values (heights, area, etc.)
   Minnesota does not allow unvented appliances to be installed in any dwelling or occupancy. This CCP address a new section in the IRC that needed clarification.
2. Why is the proposed code change a reasonable solution?
   This will follow all other code sections regarding unvented appliances.

3. What other factors should the TAG consider?

Cost/Benefit Analysis

1. Will the proposed code change increase or decrease costs? Please explain and provide estimates if possible.
   This will increase costs as venting of appliances takes time and materials.

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

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

4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.
   None as permits are required for installation of vented and if unvented appliances are allowed.

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

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
   Builders, contractors, distributers and homeowners

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

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

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

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