

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: John G. Smith, P.E.

Date: April 15, 2024

Email address: jgsmith76@gmail.com

Model Code: 2024 IMC

Telephone number: 612 867 3145

Code or Rule Section: Chap. 2 Defintions

Firm/Association affiliation, if any: ACEC

Code or rule section to be changed: Definition-Boiler

Intended for Technical Advisory Group ("TAG"): 1346 Mechanical and Fuel Gas 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 checked="" 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).

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

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

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

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

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

BOILER. A closed heating appliance intended to supply hot water or steam for space heating, processing, or power purposes, or humidification (steam). Low-pressure boilers operate at pressures less than or equal to 15 pounds per square inch (psi) (1093 kPa) for steam and 160 psi (1103 kPa) and less than or equal to 250°F (121°C) for water. High-pressure boilers operate at ~~pressures~~ conditions exceeding those pressures and temperature.

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.
Yes – Chapter 2 Definitions, **Low-Pressure Hot-Water Heating Boiler** and **Low-Pressure Steam Heating Boiler**, in that it basically duplicates those definitions.

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.)

Steam boilers are often used for humidification as well as the other purposes. Low pressure hot water boilers have the limitation of 160 psi and 250°F, and it is important to identify the limiting temperature. Defining the steam and hot water limitations in this definition basically duplicates the individual definitions for low pressure hot water and low pressure steam boilers elsewhere in the Chapter. However, the boiler definition identifies what a “high pressure boiler” is, which is not identified anywhere else in the definitions.

2. Why is the proposed code change a reasonable solution?
It is one solution. Another would be the following, which avoids duplication of operating conditions and does not require a new separate definition for High Pressure Boilers:

BOILER. A closed heating appliance intended to supply hot water or steam for space heating, processing, or power purposes, or humidification (steam). ~~Low-pressure boilers operate at pressures less than or equal to 15 pounds per square inch (psi) (103 kPa) for steam and 160 psi (1103 kPa) for water. High-pressure boilers operate at pressures exceeding those pressures.~~

LOW-PRESSURE HOT-WATER BOILER. A boiler furnishing hot water at pressures not exceeding 160 pounds per square inch (psi) (1103 kPa) and at temperatures not exceeding 250°F (121°C). High pressure boilers operate at pressures and temperatures exceeding these conditions.

LOW-PRESSURE STEAM-HEATING BOILER. A boiler furnishing steam at pressures not exceeding 15 pounds per square inch (psi) (103 kPa). High pressure boilers operate at pressures exceeding 15 psi.

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

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
Engineers, designers, contractors, inspectors, building operators.
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.
Alternative described above,
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?
Could cause confutions on boiler pressure ratings.
4. Are you aware of any federal or state regulation or requirement related to this proposed code change? If so, please list the federal or state regulation or requirement and your assessment of any differences between the proposed code change and the federal regulation or requirement.
No

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

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: John G. Smith, P.E.

Date: April 15, 2024

Email address: jgsmith76@gmail.com

Model Code: 2024 IMC

Telephone number: 612 867 3145

Code or Rule Section: Chapter 2- Defintions

Firm/Association affiliation, if any: ACEC

Code or rule section to be changed: Definition-Heat Pump

Intended for Technical Advisory Group ("TAG"): 1346 Mechanical and Fuel Gas 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 type="checkbox"/> | <input checked="" 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 checked="" 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).
Chapter 2 – Definitions

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

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

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

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

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

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

HEAT PUMP. A refrigeration system or factory-made appliance that utilizes refrigerant to transfer heat ~~into a space or substance.~~ from a cool space or substance to a warm space or substance.

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.)

As written in the 2024 IMC, the definition is not accurate as a heat pump is a reversible cycle which can transfer heat into a space/substance or away from a space/substance. The proposed definition is essentially the same as what the DOE and others use.

When used for cooling a building, the heat is transferred from the cool space (occupied space) to a warm space (outdoors). When used for heating a building, the heat is transferred from the cool space (outdoors) to a warm space (indoors).

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

It more accurately defines a heat pump.

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.
N/A
3. If there is a cost increase, who will bear the costs? This can include government units, businesses, and individuals.
N/A
4. Are there any enforcement or compliance cost increases or decreases with the proposed code change? Please explain.
No. It is clarifying a definition of a type of equipment.
5. Will the cost of complying with the proposed code change in the first year after the rule takes effect exceed \$25,000 for any one small business or small city ([Minn. Stat. § 14.127](#))? A small business is

any business that has less than 50 full-time employees. A small city is any statutory or home rule charter city that has less than ten full-time employees. Please explain.

No

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
Engineers, contractors, manufacturers, general public

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?
No

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

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