

Summary of Proposed Changes to 225 CMR 22.00 and 23.00

Stretch Energy Code and Municipal Opt-in Specialized Code

Background

In December 2022, an updated Stretch Energy Code (Stretch Code) and a new Municipal Opt-in Specialized Code (Specialized Code) were published in 225 CMR 22.00 and 225 CMR 23.00. CMR 22.00 covers Residential low-rise construction and CMR 23.00 covers Commercial and all other construction (including most multi-family).

After a year and a half of working with these new regulations, DOER has received a significant volume of detailed and helpful feedback from regulated entities, building officials and the design and construction industry. To ensure a broad range of feedback DOER hosted a public listening session and public comment period in March and April, and has been taking feedback and questions on a rolling-basis through the StretchCode@mass.gov mailbox. Based on this collective input, DOER is proposing modest revisions to the Stretch and Specialized Codes and invites public comments on these updates.

This document provides an overview and explanation of proposed changes as a companion to the redlined regulations as follows:

- **Part 1: Residential Stretch Code proposed changes**
- **Part 2: Commercial Stretch Code proposed changes**
- **Part 3: Proposed Specialized Code Changes**

Part 1: Residential Stretch Code proposed changes (in order by section number)

1. Section R401.2: Clarification of language.

Clarifies that building additions of less than 1,000 sf and minor alterations to buildings (that are classified as level 1 or 2), can use the prescriptive path in the 2021 IECC with MA modifications (Similar to the base energy code).

2. Section R402.1.5.1: Wording edit.

Updates wording to match the newly released REScheck software tool provided by the Pacific Northwest National Labs (PNNL).

3. Section R405.2 and R405.3: Passivehouse permit flexibility.

Adds the word ‘final’ to the Passivehouse documentation language (this shows up in the commercial chapter as well). This change allows building officials to issue a temporary certificate of occupancy to housing that the building official believes is ready to occupy while the developer/builder is waiting for successful completion of final testing and results.

4. Table R406.5: Maximum HERS ratings

There are 4 separate changes to this table which is a key part of the HERS rating compliance option in the stretch code.

- a. For major (level 3) alterations, and large additions and change of use projects that require a HERS rating, we propose to increase (loosen) the HERS rating requirement from a range of 52-58 to 65-75. This matches the HERS rating levels in the base code and provides significantly more leeway for the wide variety of existing residential building types, or building conversions to provide new housing units, to comply with the Stretch and Specialized Codes.
- b. For large changes to historic buildings, we remove the requirement to get a HERS rating, and allow the use of the modified prescriptive compliance path.
- c. For Accessory Dwelling Units (ADUs) we provide a new category to retain the HERS 52-58 range, in order to not hamper development of smaller sized ADUs at a time when new construction of larger homes has just moved to HERS 42-48.
- d. For new construction we propose to add an optional 3-point HERS credit for embodied carbon savings earned through use of either low embodied carbon concrete or insulation products. This new credit gives more flexibility for builders concerned about meeting HERS 42 or 45 and aligns with the embodied carbon incentive recently adopted in Vermont (for insulation products) and the growing local market for low GWP concrete ready mixes.

5. Sections R406.5.2 - R406.5.4. Embodied carbon documentation and tables.

The change in 4d. (above) to add a new construction optional embodied carbon credit leads to new language to lay-out the documentation required to claim this credit.

6. Section R408.2.2: Updated Federal Reference Standards.

This proposed code change updates referenced national standards from SEER/HSPF SEER2/HSPF2 and adjusts the mandatory values presented in the code in order to leave the requisite efficiency unchanged. There is no decrease or increase in stringency intended with this change.

7. Section R502.1.1 Large additions.

This adds an exception – to clarify more explicitly with existing guidelines, that additions that fit-out existing basement and attic spaces do not trigger a HERS rating requirement. This reflects a request for clarity, not a change in stringency.

8. Section R503.1.5 Level 3 Alterations, or Change of Use.

Another request for clarity in the code language, this adds the words ‘and also’ to make clear that there is a 2-part test for when a HERS rating is required.

Part 2: Commercial Stretch Code proposed changes (in order by section number)

1. Determining the U-factor of Tapered, Above-Deck Insulation (Section C402.1.4.1.1)

In the current code the thermal performance of tapered insulation on a roof is measured by taking the R-value at the average thickness. The proposed language instead measures the thermal performance at a point 1” thicker than the minimum thickness of the insulation which provides a simple, reasonable approximation of actual roof performance in these situations.

2. New exception to facilitate existing building change of use to residential (Section C402.1.5.1)

This new exception will relax the envelope performance requirements for existing low glazed wall system buildings converting to residential dwelling units. The individual dwelling units can comply with the R406.5 HERS ratings, OR the entire building can comply with C401.4.2 (full space heating electrification) and a vertical envelope area-weighted U factor.

3. Clarifying Revolving Door Requirements (Section C402.4)

There is currently no industry standard that provides a method for U-factor calculation of revolving doors, and they will not meet the prescriptive requirements of the code for other exterior door types. This section designates a set of U-factors contained in ASHRAE Handbook of Fundamentals as the reference data for the revolving door calculations.

4. Changes to EV managed charging incentive (Table C405.13.1)

This edit simplifies the table on optional managed charging of electric vehicle parking spaces, and slightly increases the incentive to use managed charging in new parking lots.

5. Partial Electrification Accommodation for District Systems (Section C407.2.1)

This proposed change creates a new exception which allows relief from having to include partial efficient electrification for new buildings connecting to a District Energy System (DES) which is transitioning to hydronic distribution enabled with inter-building heat energy recovery.

6. Passivehouse permit flexibility (Sections C407.5.2 and C407.5.3)

Adds the word ‘final’ to the Passivehouse documentation language (this is the same change as in the residential chapter).

7. Requirements for Air Infiltration Testing in Additions (Section C502.3.7)

This language is added to clarify that when building a new addition on an existing building, only the addition itself needs to comply with air infiltration testing requirements and the existing building does not need to be tested for air-leakage.

8. Insulation of Existing Wall Cavities (Section C503.1)

This proposes an additional exception to the requirements regarding insulation of exposed wall assemblies in an existing building. This new exception allows limited portions of a building element (up to 10 SF) to be exposed without having to open and insulate to code the entirety of the wall system. R-4/inch insulation will be required to be installed at these localized openings.

9. Requirements for Derating and Thermal Bridges in Alterations (Section C503.2.4)

The current code includes requirements for thermal derating where thermal bridges exist between insulation in walls. This proposed section allows thermal bridges due to existing wall components that are unaltered and inaccessible to be excluded in the thermal derating calculations.

10. Change of use clarification (Section C505.1.)

This change addresses a clarification request concerning IECC model code language (not Massachusetts amendments) regarding spaces undergoing a change of use.

Part 3: Proposed Specialized Code Changes

1. Reduction in on-site renewable energy for highly-ventilated and hospital buildings following mixed-fuel pathway (Section CC105.2)

These building types generally have extensive rooftop equipment requirements which significantly impact these projects' ability to conform to the installed PV requirement of the mixed fuel pathway of the Specialized Code. This change reduces the mandatory solar PV from 1.5 W/sf to 0.5 W/sf (a 67% reduction).

2. Updated Federal Reference Standards (Section CC105.3.1)

This proposed change provides the same update to SEER and HSPF as described above in Section R408.2.2. As above, there is no change in efficiency stringency.

3. Electric Readiness Accommodation for District Systems (Section CC106.1)

This proposed change creates a new exception which allows relief from having to include efficient electrification readiness for new buildings connecting to a District Energy System (DES) which can demonstrate that it is transitioning to be fossil-fuel free.

4. Embodied Carbon Credit for residential new construction (TABLE RC102.2)

Proposed addition of the same optional 3-point HERS credit for embodied carbon savings as proposed for the stretch code, with reference to the stretch code embodied carbon documentation and tables.