DEPARTMENT OF LABOR AND INDUSTRY
CONSTRUCTION CODES ADVISORY COUNCIL

Meeting Minutes: Construction Codes Advisory Council

Date: Nov. 14, 2025 | Time: 9:00 a.m.
Location: DLI, 443 Lafayette Rd. N., St. Paul, MN 55155 | WebEx | Phone

Members

1. Karl Abrahamson
2. Scott Anderson
3. Lori Bauer (WebEx)
4. Mary Barnett (alt for Mara Peterson)
5. Mark Brunner
6. Chris Ferguson (WebEx)
7. Arne Grant
8. Barry Greive (WebEx)
9. Tom Jenson
10. Stephen Kartak
11. David Kegler
12. Russ Landry
13. Greg Metz – Chair
14. Dan McConnell (WebEx)
15. Mike Paradise (WebEx)
16. William Pim (WebEx)
17. Reed Sprung
18. Brian Stemwedel
19. Desiree Weigel
20. Mark Worms

Members Absent

Mara Peterson (alternate attended)

Staff & Visitors

Kate Perushek – Deputy Commissioner
Jeff Lebowski – Atty for CCAC, DLI
Daniel Becker – DLI (WebEx)
Alexis Johnson – DLI (WebEx)
Larry Farrar – DLI
Lyndy Logan – DLI
Sean Callahan – DLI
Todd Green – DLI (WebEx)
Makenzie Johnson – DLI (WebEx)
Jason Kelzer – DLI (WebEx)
Britt McAdamis – DLI (WebEx)
Ken McGurran – DLI (WebEx)
Scott McKown – DLI (WebEx)
Josiah Moore – DLI
Krystina Nickila – DLI (WebEx)
Terence Olson – DLI
Ryan Rehn – DLI
Chris Rosival – DLI
Steve Shold – DLI
Don Sivigny – DLI
Amanda Spuckler – DLI (WebEx)

Staff & Visitors continued…

Paul Swett – DLI
Jesse Szykulski – DLI
Phil Anderson – CEE
Jessica Archer – Target (WebEx)
Mike Beardsley – Arcxis
Eric Boyd – Arcxis
Anusha Burte – CEE
Charlie Carlson – CenterPoint Energy (WebEx)
Sam Caven – Dabbert Homes (WebEx)
Ross Davison – Sala Arc (WebEx)
Nick Erickson – Housing First MN
Eric Flower – CEE
Mark Foster – Housing First MN (WebEx)
Eric Fowler – Fresh Energy
Sam Frieson – Fresh Energy
Ross Glad – McGough (WebEx)
Nick Haeg – Fresh Energy (WebEx)
Sheri Hansen – AIA MN (WebEx)
Joshua Harmon – Shums Coda
Richard Hauffe – ICC (WebEx)
Alyssa Jagdfeld – Sala Arc (WebEx)
Jared Johnson – PHIUS (WebEx)
Grace Keliher – BAM (WebEx)
Randy King – City of N. Mankato (WebEx)
Jonny Kocher – RMI Org (WebEx)
Ed Lisinski – AWC Org (WebEx)
Joel Lynch – CenterPoint
Sarah Newman – SMXB Law
Greg Olson – Semco
Ilana Percher – DOC (WebEx)
Angela Peterson – CEE
Darren Port – Slip Stream Inc. (WebEx)
Mike Robertson – TC Habitat Org (WebEx)
Peter Schmelzer – KAAS Wilson (WebEx)
Ryan Setterholm – CenterPoint Energy
Erin Sherman – RMI (WebEx)
Isacc Smith – CEE
Matt Spellman – MN Realtors
Theresa Sprung – Sprung Services, Inc.
Brian Stemwedel – City of Minnetonka
Amanda Swenson – SFM
Elizabeth Torske – CNGC (WebEx)
Stephen Ubl – City of St. Paul
Jason Vandever – NAIMA (WebEx)
Julia Wells – MNCEE (WebEx)
James Williamette – Shums Coda
Forrest Williams – SFM (WebEx)

1. Call to order

A. Chair Metz called the meeting to order at 9:02 a.m.

B. Ryan Rehn (chair alternate) took roll call and a quorum was established with 20 of 20 members present, in person or remotely. A quorum was maintained throughout the meeting.

C. Announcements/Introductions – Chair Metz

- Everyone present in person and remotely can hear all discussions.
- All votes will be taken by roll call if any member is attending remotely.
- All handouts discussed and WebEx instructions are posted on the Council's website.

D. WebEx instructions/procedures were read aloud.

2. Approval of meeting agenda

A motion was made by Kartak, seconded by Landry, to approve the agenda. Chair Metz noted that the Open Forum speakers would have opportunities to address the council at various points during the meeting. The roll call vote was unanimous, with 20 votes in favor; the motion carried.

3. Approval of previous minutes

A motion was made by Stemwedel, seconded by Barnett, to approve the July 17, 2025, meeting minutes as presented. The roll call vote was unanimous, with 20 votes in favor; the motion carried.

4. Regular business

Expenses were approved.

5. Department update – Deputy Commissioner Kate Perushek

- **Agenda Overview:**
  The meeting includes several Open Forum requests and code change proposals. While the council typically relies on technical advisory groups (TAGs) for recommendations, additional proposals may arise post-TAG review and will be considered today.
- **Encouragement for Deliberation:**
  Members were thanked for their thoughtful review of proposals, especially those outside the usual TAG process.
- **Mental Health Initiative:**
  CCLD is launching a **construction worker mental health grant program**, with the application period closing today.
  - Focus: Suicide prevention and mental health awareness in the construction industry.
  - Goal: Reduce stigma and promote well-being through outreach and education.
  - Updates will be shared with the council as the initiative progresses.

6. Special Business (see presentation)

A. BOT Grants Program Update – Chair Metz

B. Rulemaking updates from the 2024 code cycle Technical Advisory Groups

a. MN Rules Chapter 1311 – Conservation Code for Existing Buildings

CCP EB-13 Electrical Service

- **Ryan Rehn (chair alternate, DLI) – (see Attachments A and B)**
  - Clarification: An error in the distributed staff recommendation reversed the quoted language. The proposed revision would change "shall be upgraded to meet" to "shall meet" NFPA 70 requirements.
  - Staff Position: Despite the revised wording appearing similar, the staff recommends disapproval of the proposed change.
  - Rationale:
    - Removing "upgraded" introduces ambiguity and may weaken enforcement.
    - The original language ensures clarity, supports consistent enforcement, and aligns with life safety goals.

    - The requirement to upgrade is consistent with national model codes and NFPA 70's intent during occupancy changes.
- **Karl Abrahamson –** Noted that a related code change proposal was included in the materials.
- **Chair Metz** – Clarified that the proposal and staff recommendation were reversed in the packet. The TAG-approved version removes "upgrade," while the staff recommends keeping it.
- **William Pim** – Opposed the term "upgrade," citing its specific meaning in the electrical code. Argued it could require unnecessary changes even when the existing service is adequate. Supported the TAG's version: "shall meet the requirements."
- **Chair Metz** – Confirmed Pim supports the TAG recommendation, not the staff's.
- **Russ Landry** – Asked whether staff supports including or removing "upgrade."
- **Rehn** – Confirmed staff supports including "upgrade" to align with the national model code and avoid ambiguity.
- **Pim** (follow-up) – Reiterated concern that "upgrade" may mandate unnecessary work when the service is already compliant.
- **Brian Stemwedel** – Asked for clarification on the definition of "service."
- **Rehn** – Confirmed "service" refers to the utility connection up to the panel.
- **Landry** – Asked about the TAG vote; Metz confirmed it was by consensus.
- **Abrahamson** – Suggested using a term like "evaluate" instead of "upgrade" to avoid implying unnecessary work. Further Clarification and Commentary Discussion
- **Ryan Rehn** – Explained that the ICC commentary on Section 1007.3 supports the use of "upgrade" when required by NFPA 70. Removing the term would create a deviation from the national model code.
- **Grant** – Clarified that a "yes" vote supports the staff recommendation and retains the model code language.
- **Chair Metz** – Confirmed Grant's interpretation and acknowledged the confusion.
- **Scott Anderson** – Supported retaining the model code, stating the difference in wording is minimal and doesn't justify a change.
- **Barry Greive** – Agreed with keeping the model code but suggested referencing the commentary to clarify that upgrades aren't required if the system already meets NFPA 70.
- **Chair Metz** – Noted that the building code doesn't allow embedded commentary like the fire code, but education can be provided.
- **Pim** – Supported keeping the model code and emphasized the value of the ICC commentary for those applying the code.
- **Anderson** (follow-up) – Believes building officials can apply logic and discretion when interpreting "upgrade," and referencing commentary may not be necessary.
- **Chair Metz** – Suggested moving to a formal vote unless there were new or differing comments.

CP EB-13 Electrical Service: A motion was made by Anderson, seconded by Kartak, to disapprove the proposed revision to Section 1007.3, MN Rules Chapter 1311 Conservation Code for Existing Building, retaining the current model code language stating that "electrical service shall be upgraded to meet the requirements of NFPA 70" when a change of occupancy occurs. The roll call vote was unanimous, with 20 votes in favor; the motion carried.

b. MN Rules Chapter 1309 Residential Building Code

- **Jesse Szykulski –** Reported on the Residential Building Code TAG's work. The group met 20 times and reviewed 42 code change proposals. Recommended adopting the 2024 IRC: Chapters 2–10 (Building), Chapter 11 (Energy), and Chapters 12–24 (HVAC). Repealed Minnesota's deletion of storm shelter requirements and adopted IRC Section R307, referencing ICC 500

(2020). Introduced a requirement for a registered design professional to assess excavation impacts on adjacent foundations. Proposed increasing the loft ceiling height in tiny homes from 36" to 42". Recommended adopting Appendix BJ for straw bale construction with amendments: third-party moisture testing, silicate mineral paint, increased ground and plaster separation, extended roof overhangs, and rodent screening. Also recommended is adopting Appendix BL for hemp lime construction with modifications: isolating metal MEP components and requiring extended roof overhangs unless ventilated cladding is used.

- **Chair Metz** – Asked for clarification on whether storm shelters must comply with ICC 500. Confirmed that the next step is a motion to accept the TAG report.

MN Residential Code TAG Report
A motion was made by Paradise, seconded by Stemwedel, to approve the Minnesota Residential Code Technical Advisory Group (TAG) Report as submitted (see Attachment C). The roll call vote was unanimous, with 20 votes in favor; the motion carried.

- **Anderson** – Clarified that the Minnesota amendment for storm shelters was removed because the requirement is now included in the model code under Section R307, making the amendment unnecessary.
- **Mark Brunner** – Asked about the industry standard referenced in the proposal to increase ceiling height in tiny house lofts from 36" to 42". Noted uncertainty about which standard was being matched and suggested the primary reason was to improve safety and headroom at the top of stairways.

EV Charging (see Attachment D)

- **Eric Fowler** – Representing Fresh Energy, supported a residential code change to prepare homes for increased electric vehicle (EV) adoption. Cited rapid EV growth in Minnesota (from 10,000 in 2018 to nearly 80,000 in 2024) and nationally. Emphasized that 80% of EV charging occurs at home, making residential infrastructure critical. Advocated for requiring conduit and reserved panel space for Level 2 EV chargers in new residential construction. Noted that a simplified version of the proposal (conduit only) failed in TAG by one vote. Urged adoption now to avoid costly retrofits later. Concluded by stressing the importance of acting now to reduce future costs and support safe, efficient home charging.

- **Nick Erickson (see Attachment E)** – Representing Housing First Minnesota, opposed the EV charging readiness proposal. Emphasized that the state building code is intended to ensure uniform construction at the lowest cost consistent with national standards. Argued that rising housing costs are pricing out first-time buyers, and EV readiness adds to that burden. Cited builder feedback showing EV adoption at lower price points is extremely low (0.5%). Stated that there is no demonstrated market demand or essential nexus for requiring EV infrastructure in new homes. Noted that the legislature has not authorized this requirement. Referenced Curtis Johnson's TAG input and a letter from Minnesota Realtors indicating buyers prioritize affordability over energy features. He urged the council to prioritize homeownership access in Minnesota.

- **Chair Metz** – Invited a motion to incorporate electric vehicle charging readiness into the Minnesota Residential Code. Clarified that this would require installing conduit from the electrical panel to a designated parking space—either in a garage or an on-site parking area—as outlined in the meeting packet.

CCP – Add EV Charging: A motion was made by Landry, seconded by Barnett, to incorporate electric vehicle charging readiness, as presented, in the Minnesota Residential Building Code. The motion failed by roll call vote with 16 opposed, 2 in favor (Grant and Landry), and 2

abstentions (Jenson and Metz). As a result, electric vehicle charging readiness will NOT be included in the MN Residential Code.

CCP: Add Accessory Dwelling Units – Appendix BC with amendments (See Attachments F and G)

- **Chair Metz** – Introduced a code change proposal on accessory dwelling units (ADUs). Clarified that appendices are only reviewed by TAGs if submitted as proposals, which was misunderstood in this case. Staff supports reviewing the ADU appendix to promote statewide consistency, as municipalities currently create their own rules.
- **Anderson** – Proposed adopting the model code appendix for ADUs with Minnesota-specific amendments. Stated that ADUs are not currently addressed in the code, leading to inconsistent local regulations. Key amendments include:
  - ADUs not permitted in two-family dwellings or townhouses (except detached units) to avoid changing building scope.
  - ADUs must be attached to or within single-family dwellings; one ADU per primary unit.
  - Detached ADUs may be larger (up to 1,600 sq ft); attached/internal ADUs limited to 800 sq ft or 50% of the primary unit, but not less than 190 sq ft.
  - ADUs must have a separate entrance and provide full independent living facilities (per HUD standards).
  - HVAC systems must allow independent climate control; no shared air circulation.
  - Plumbing, electrical, and gas systems must allow service to be shut off independently between units.
- **Anderson** – Emphasized the need for uniformity across jurisdictions due to increasing ADU development in cities like Minneapolis and Rochester.
- **Chair Metz –** Thanked Anderson and noted a motion and a second are needed before discussion can proceed.

Dan McConnell departed the meeting at approximately 10:15 a.m., resulting in 19 members present in person or online.

CCP: Add Accessory Dwelling Units – Appendix BC with amendments: A motion was made by Paradise, seconded by Stemwedel, to incorporate Appendix BC, with the proposed amendments, into the Minnesota Residential Building Code. The motion passed by roll call vote with 10 in favor, 3 opposed (Abrahamson, Bauer, and Greive), and 5 abstentions (Anderson, Barnett, Brunner, Jenson, and Worms). [Reed Sprung had stepped out of the room; he did not vote]

- **Pim** – Asked if the intent is to allow part of a large house to be converted into an ADU without fully rebuilding systems. Expressed concern that requiring full separation of systems (electrical, plumbing, HVAC) makes ADUs impractical in existing homes.
- **Anderson** – Confirmed the intent is to allow such conversions but emphasized the need for minimum health and safety standards. Stated that air transfer between units poses health risks and must be avoided. Acknowledged that the electrical and plumbing requirements add complexity but are necessary to ensure independent access and functionality, especially in cases like power outages.
- **Mike Paradise** – Supported adopting ADU provisions, citing experience building two ADUs in Rochester. Noted confusion during construction due to a lack of clear standards. Clarified that separate utility services (water, sewer, electrical) were manageable without major infrastructure changes. Emphasized that the proposal helps address real-world roadblocks. Recommended removing the owner-occupancy requirement from the building code, suggesting it belongs under local planning and zoning.
- **Chair Metz** – Noted that owner-occupancy is already addressed in the building code under lodging houses, and national model codes also include it in some cases.

- **Abrahamson** – Stated that BC 105.4 conflicts with Minnesota Plumbing Code 311.1. If the ADU is part of the same building, one water service is allowed. If detached, separate water and sewer services are required. Recommended referencing the plumbing code or submitting a formal request to amend it.
- **Anderson** – Asked if a pool cabana with plumbing would require separate service. Abrahamson confirmed that the code requires it for detached buildings, even if exceptions have been allowed in practice.
- **Mark Brunner** – Asked if the League of Cities had weighed in. Anderson replied no, but hoped they would support the proposal for housing consistency.
- **Pim** – Questioned the need for strict size limits on ADUs in large homes. Anderson explained that the intent is to keep ADUs "accessory" and smaller than the primary unit to avoid reclassifying the structure as a duplex. Also noted the lack of fire and sound separation requirements between units.
- **Chair Metz** – Asked if language could be written to require individual water control per unit while still complying with the plumbing code.
- **Abrahamson** – Explained that Plumbing Code 311.1 requires separate services for detached buildings. If the ADU is attached, one service is allowed. Confirmed that requiring individual shutoff control per unit, while complying with the plumbing code, would be acceptable.
- **Chair Metz** – Summarized that requiring separate control and compliance with the plumbing code would resolve the issue for both attached and detached ADUs.
- **Abrahamson** – Confirmed that this approach would be compliant and clarified: The intent is that if the Accessory Dwelling Unit (ADU) is attached to the primary building, a separate shut-off valve would be sufficient. However, if the ADU is detached, compliance with the plumbing code would require the installation of a separate water service.
- **Greive** – Supported the concept but opposed adopting it now, stating the proposal feels like code is being written on the fly. Recommended that it go through a TAG process with broader input, including the League of Minnesota Cities.
- **Stemwedel** – Asked if the proposal would override local zoning ordinances. Anderson confirmed it would, for areas covered by the building code. Also asked if fire-rated separation is required; Anderson said no.
- **Landry** – Clarified that the proposal is based on a national model code appendix, with some amendments by Anderson.
- **Brunner** – Asked how the proposal would be enforced if it conflicts with local zoning. Anderson explained the state building code would take precedence, and non-conforming structures would be handled separately.
- **Chair Metz** – Cited Minnesota Statute 326B.121, which states the building code supersedes municipal ordinances. Expressed concern that sending the proposal to a TAG would delay the residential code update and require reopening rulemaking.
- **Paradise** – Recommended forming a TAG or working group for broader input. Later confirmed that the public had the opportunity to comment at this meeting. Noted that, like townhomes, ADUs wouldn't be required in municipalities that don't allow them.
- **Jenson** – Asked if the ADU appendix would be optional, like fire code appendices. Chair Metz clarified that it would be adopted statewide as part of the rule, not optional.
- **Kartak** – Asked if municipalities would be required to allow ADUs. Chair Metz confirmed they would not; the building code governs how ADUs are built, not whether they must be allowed.
- **Chair Metz** – Closed discussion and called for a roll call vote.

The CCAC took a 10-minute recess from 10:40 a.m. to 10:50 a.m.

- **Chair Metz** – Reopened discussion following the break to begin the rule recommendation portion for the **Minnesota Residential Building Code**. Clarified that two optional items were voted on: one was not supported, the other (Appendix BC for ADUs) was approved. Called for a

motion to recommend that the commissioner proceed with rulemaking for Minnesota Rule 1309, based on TAG recommendations, with the modification to include Appendix BC with amendments for accessory dwelling units.

A motion was made by Stemwedel, seconded by Grant, to recommend that the Commissioner proceed with rulemaking for the Minnesota Residential Code (Minnesota Rule 1309), based on the TAG recommendations, with the modification to adopt Appendix BC, with amendments, for accessory dwelling units (ADUs), as presented. The motion passed by roll call vote: 16 in favor, 1 opposed (Abrahamson), and 2 abstentions (Brunner and Jenson).

c. MN Rules Chapter 1322 – Residential Energy Code (see Attachment H)

- **Shold** – Reported that the Residential Energy Code TAG held 10 meetings and reviewed Chapter 11 of the IRC instead of the IECC, noting both contain similar provisions. Highlighted five key changes:
  - Redefined "residential building" to eliminate confusion between residential and commercial code application for low-rise multifamily buildings.
  - Introduced an alternative prescriptive envelope compliance path using pre-modeled options (via ResCheck) to increase flexibility, especially in rural areas.
  - Added a thermal envelope backstop with a 25% window-to-wall ratio limit, replacing the component performance alternative.
  - Changed air leakage testing metric from ACH (air changes per hour) to CFM leak area for more accurate results.
  - Recommended removing the requirement for continuous exterior insulation during full re-siding of a wall, citing cost, construction challenges, and limited energy benefit.
- **Chair Metz** – Called for a motion to approve the TAG report as presented.

MN Residential Energy Code TAG Report
A motion was made by Stemwedel, seconded by Landry, to approve the Minnesota Residential Energy Code Technical Advisory Group (TAG) Report as submitted. The motion passed by roll call vote with 18 in favor and 1 opposed (Brunner).

- **Paradise** – Asked if the vote on the TAG report was all-or-nothing. Confirmed that the air leakage metric would switch from ACH to CFM leak area, eliminating the previous method. Noted smaller homes have struggled with ACH compliance and confirmed with his rater that the new method is likely not more restrictive. Supported the change based on TAG research.
- **Shold** – Confirmed the new metric (CFM leak area) is more accurate and aligns with commercial and model codes. Explained that the change promotes consistency and avoids confusion between metrics.
- **Anderson –** Asked if R2, R3, and R4 buildings would now fall under the commercial code. Shold confirmed and explained that the scoping will be adjusted accordingly. Raised concern about assisted living (R3) in single-family homes being forced into commercial compliance. Shold noted exceptions may be considered for such cases.
- **Landry** – Clarified that the commercial energy code TAG has already recommended the same scoping change.
- **Chair Metz** – Explained that buildings under Rule 1309 will follow Rule 1322 (residential energy), and buildings under Rule 1305 will follow Rule 1323 (commercial energy).
- **Brunner** – Asked about the cost impacts of the proposed changes.
- **Chair Metz** – Stated cost impacts are more relevant to the commercial code. Residential and commercial energy codes are becoming more aligned, so cost differences are expected to be minimal.
- **Chair Metz** – With no further questions, called for a roll call on the motion to approve the TAG report.

- **Metz** – Staff has recommendations for the council to consider before finalizing recommendations to the commissioner. Public speakers will also be heard on the residential energy bill. Starting with staff recommendations.

CCP RE-39: Simulated Building Performance Pathway (see Attachment I)

- **Shold** – RE-39 proposed removing the simulated building performance pathway. It passed TAG narrowly (6-5-1). Staff recommends rejecting RE-39 to retain this pathway, which is more accessible in rural areas compared to the ERI pathway that requires third-party raters.
- **Rosival** – Confirms the simulated performance pathway is currently in the code.
- **Shold** – Reiterates recommendation to reject RE-39 and keep all three residential energy code pathways.
- **Metz** – Clarified that the RE-39 recommendation is to retain the simulated performance pathway.
- **Paradise** – Questions the rationale for removing a pathway—more options seem better.
- **Shold** – Proponents wanted simplification. Fewer pathways make it easier to align with 2038 efficiency goals. Maintaining equivalency across three pathways is more complex.
- **Paradise** – Asks when the next opportunity to remove a pathway would be.
- **Shold** – Minnesota is now on a three-year code cycle.
- **Metz** – Adds that ERI relies on third-party raters, mostly available in metro areas. Retaining the simulated pathway ensures statewide accessibility.
- **Shold** – Notes the simulated pathway is a more generic performance model, potentially more accessible.

CCP RE-39: Simulated Building Performance Pathway
A motion was made by Anderson, seconded by Kartak, to reject RE-39 and retain the Simulated Building Performance Pathway, with modifications to align its efficiency with that of the Energy Rating Index Method. The motion passed by roll call with 17 in favor and 2 abstentions (Jenson and Landry).

CCP RE-41.1: Level Setting for Heat Pumps

- **Shold** – Proposal affected **three code sections**, including **N1108** (additional points system). Introduced: **Doubling of required points** for compliance and n**ew options** for federal minimum heat pumps and electric water heaters. Initially supported (10–1), but deeper analysis raised concerns:
  - **Doubling points** too aggressive for first update in a decade.
  - **Modeling issues**: Hard to compare heat pumps (heating + cooling) with furnaces (heating only).
  - **No requirement** for cold climate heat pumps or minimum COP/crossover temperature.
  - **Federal minimum heat pumps** already in model code—**not credited in MN** due to inefficiency.
  - Proposal would **give high credit (16 pts)** to low-efficiency systems—**step backward**.
  - **Electric water heater** option gave **disproportionate points (12 pts)**.
  - **High-efficiency furnaces** earned fewer points (e.g., 97% furnace = 7 pts).
- **Shold** – Also adjusted **ERI scores**, allowing **weaker thermal envelopes** if using heat pumps—undermines envelope efficiency standards. **Recommendation**: **Reject** the proposal and **retain the current N1108 model code table**.

CCP RE-41.1: Level Setting for Heat Pumps: A motion was made by Paradise, seconded by Anderson, to reject Code Change Proposal RE-41.1, which would double the required additional efficiency credits from 10 to 20, and increase the number of points allowed for federal minimum efficiency heat pumps from 0 to 15 in Climate Zone 6 and 0 to 16 in Climate Zone 7. The motion passed by roll call vote with 18 in favor and 1 abstention (Jenson).

CCP RE-43.1: Air Leakage Metric

- **Shold** – First two proposals were recommended for full rejection; this and the next are recommended for amendment. RE43 changes the air leakage metric from ACH (air changes/hour) to CFM per square foot of leak area. Original proposal set threshold at 0.18 CFM/sq ft; staff recommends adjusting to 0.20 CFM/sq ft as a more reasonable starting point. Eliminate two exceptions: Multifamily units – no longer needed due to updated residential scoping and small homes (<1,500 sq ft) – unnecessary since all homes now measure the same way. Data support: 95% of homes with HERS ratings in the past 3 years would meet 0.20 CFM. Only 83% would meet 2.5 ACH in the 2024 IECC. **Conclusion: 0.20 CFM is a fair and achievable benchmark.**
- **Paradise** – Confirms 2024 IECC reduces ACH from 3.0 to 2.5. Asks if the foundation insulation trade-off still exists.
- **Shold** – Yes, that was a Minnesota-specific amendment based on 2012 durability research. May be revisited depending on upcoming durability research and rulemaking.

CCP RE-43.1: Air Leakage Metric

A motion was made by Kartak, seconded by Barnett, to approve the modification of Code Change Proposal RE-43.1 by resetting the air leakage rate to 0.20 cfm/sf of the exterior thermal envelope and by deleting the exceptions that permit a rate of 0.27 cfm/sf for multi-family buildings and for dwellings under 1,500 sf. The motion passed by roll call vote with 18 in favor and 1 abstention (Jenson).

CCP RE-44: Performance Pathway Backstops

- **Shold** – RE44 proposed eliminating the 15% trade-off budget in performance pathways, requiring a zero percent budget to improve thermal envelopes. While well-intentioned, this effectively forced compliance with the 2024 prescriptive envelope, removing flexibility. Staff recommends modifying the proposal to allow an 8% trade-off budget instead of zero. This maintains some flexibility while ensuring envelopes aren't worse than the current typical construction. It sets a reasonable backstop without fully eliminating performance pathway options.
- **Chair Metz** – Going to zero made performance pathways nearly unusable by removing envelope trade flexibility. The 8% recommendation restores practical usability while still improving envelope standards.
- **Sarah Newman** – Representing the Responsible Energy Codes Alliance (RECA), which supports adoption of the IECC without weakening amendments. **Supports clean adoption of the 2024 IECC in Minnesota.**
  - **Opposes RE45:**
    - Adds unnecessary complexity with glazing area calculations not used in any other state.
    - Based on outdated concerns, 2020 data shows average glazing at 14%.
    - Minnesota is already adopting the most stringent U-factor nationally.
    - Proposal undermines the simplicity and effectiveness of the prescriptive path.
  - **Opposes RE51:**
    - Introduces three new compliance options allowing wall insulation trade-offs.
    - R-values and u-factors are inconsistent with IECC and could increase energy use.
    - No equivalency analysis has been done; values are placeholders.
    - Risks of creating efficiency loopholes not present in the IECC.
    - Recommends rejection or, at a minimum, DOE equivalency analysis before adoption.
- **Joel Lynch** – Representing CenterPoint Energy, which supports energy efficiency and reliable code advancement. **Urges caution** in adopting amendments that deviate from the model code without clear, vetted impacts. **Supports high standards** for evaluating code performance,

emphasizing the **DOE's Energy Index** as the objective metric used to measure state code progress.

- **Energy Index**:
  - Measures prescriptive code improvements relative to 2006.
  - Controls for external factors (e.g., fuel type, home size).
  - Only a small subset of code changes affects it directly.
- **Criticizes RE41.1**:
  - Claims it could deliver over half of the required energy savings by 2038 via credits for federal minimum heat pumps.
  - Argues this is flawed—**Energy Index cannot reward minimum efficiency**.
  - Warns it could **exempt heat pump homes from other savings measures**, undermining actual progress.
- Raises concern: If code defines its own performance metrics, **statutory goals could be met superficially**, compromising **objectivity, safety, and fuel neutrality**.
- Notes that **RE39, RE44, and RE50** may have merit but **do not directly contribute to Energy Index improvements** and should be evaluated accordingly.

CCP RE-44: Performance Pathway Backstops
A motion was made by Paradise, seconded by Stemwedel, to modify Code Change Proposal RE-44 by changing the building envelope trade-off allowance from 0% to 8%. The motion carried by roll call vote with 18 votes in favor and 1 abstention (Jenson).

- **Jared Johnson** – Representing the PHIUS Alliance of Minnesota, in support of adopting the 2024 IRC energy provisions and all TAG-recommended amendments. PHIUS projects demonstrate that high-performance buildings are practical and cost-effective, with only a 1–4% cost increase that diminishes as practices standardize. Supports amendments RE39, 40, 41.1, 43, 50, and 52, viewing them as essential to a strong, workable energy code.
  - Key benefits of the amendments:
    - Improve consistency and fairness across compliance pathways, ensuring similar efficiency regardless of method or fuel type.
    - Reinforce building envelope standards, preventing trade-offs that could weaken long-term efficiency, comfort, or durability.
    - Simplify compliance and improve enforceability by aligning requirements and reducing complexity.
  - **Overall, the package represents a balanced, forward-looking update that strengthens the code while maintaining clarity and feasibility.**

- **Isaac Smith** – Member of the Residential Energy Code TAG, offering insight into the two-year review process. TAG's goal was to create a fair and equivalent energy code tailored to Minnesota, based on the 2021 IECC. Emphasized that energy-efficient homes lower monthly utility bills, offsetting any upfront cost increases over a 30-year mortgage. Warned that adopting the unamended 2024 IECC would undermine the TAG's work, which balanced energy savings with housing affordability. Many amendments aimed to ensure equity across all three compliance pathways (prescriptive and two performance paths), so no builder is held to a higher standard based on the path chosen. Strongly supports the thermal envelope backstop and DLI's 8% trade-off allowance, calling it a fair compromise that maintains flexibility. Noted that 5% leeway aligns with 2012 IECC; 8% offers even more flexibility. Adopting the model code without this amendment could allow worse envelope performance than the current code. **Fully supports DLI's proposed amendments and all TAG recommendations.**

- **Chair Metz** – Invited staff to respond to public forum comments.

- **Shold** – Model-only adoption would not meet Minnesota's legislative requirement to exceed model code efficiency; incremental improvements are mandated by law.
  - **RE45 (glazing backstop):**
    - Proposal sets a 25% window-to-wall ratio limit to prevent extreme cases like all-glass homes that still meet prescriptive code.
    - No extra calculations needed if under 25%.
    - Addresses a long-standing loophole absent since the 1990s.
  - **RE51 (envelope trade-off table):**
    - Shold authored the proposal; modeling was pending at the time but is now being developed with the Center for Energy and Environment using ResCheck.
    - Provides pre-modeled flexibility for builders, especially in rural areas without access to software or third-party raters.
    - Builders can use a table of trade-offs (e.g., better windows or attic insulation in place of continuous wall insulation).
    - Goal is to offer optional, simplified compliance without requiring custom modeling—flexibility without complexity.

MN Residential Energy Code TAG with modifications
A motion was made by Landry, seconded by Stemwedel, to recommend that the Commissioner proceed with rulemaking for the Minnesota Residential Energy Code based on the TAG recommendations, with the following modifications: Reject CCP RE-39, which eliminates the Simulated Building Performance Compliance Pathway; Reject CCP RE-41.1, which doubles the required number of additional energy credit points and drastically increases credits for federal minimum heat pumps; Modify CCP-RE 43.1 (as presented) to change the air leakage allowance from 0.18 cfm/sf to 0.20 cfm/sf.; and Modify CCP RE-44 resetting the backstops for performance compliance to allow 5% offset in lieu of requiring the prescriptive envelope criteria 0% offset. The motion passed by roll call vote with 18 in favor and 1 abstention (Jenson).

d. MN Rules Chapter 7511 – Fire Code (non-building code-related items)
No discussion due to time constraints.

e. MN Rules Chapter 1300 and MR1301 Administrative Provisions (minor revisions)
No discussion due to time constraints.

7. New Business – Greg Metz, Chair

A. Manufactured Housing TAG: Legislative Policy Modifications
No discussion due to time constraints.

B. DLI/CCLD Policies: State Project Delegations
No discussion due to time constraints.

C. Delegations Program – Technical Advisory Group
A motion was made by Stemwedel, seconded by Paradise, to approve the Technical Advisory Group as presented to form new rules outlining the Delegations Program for public buildings and state-licensed facilities. The motion passed by roll call vote with 18 in favor and 1 abstention (Anderson).

8. Open Forum

None

9. Council member discussion

None

10. Announcements

The CCAC meets 1-3 times per year. Meeting notifications are sent one week prior. Please contact Lyndy.Logan@state.mn.us if you would like to be added to these notifications.

11. Adjournment

A motion was made by Landry, seconded by Barnett, to adjourn the meeting at 12:01 p.m. The roll call vote was unanimous, with 16 votes in favor; the motion carried.

Respectfully Submitted,

Lyndy Logan
Executive Secretary to the CCAC

Green meeting practices
The State of Minnesota is committed to minimizing in-person environmental impacts by following green meeting practices. DLI is minimizing the environmental impact of its events by following green meeting practices. DLI encourages you to use electronic copies of handouts or to print them on 100% post-consumer processed chlorine-free paper, double-sided.

Staff Recommendation Document

Subject: Disapproval of Proposed Revision to IEBC Section 1007.3 – Electrical Service Upgrade Requirement

Date: 07/22/2025

Prepared By: Ryan Rehn, CCLD Manager Building and Plumbing Plan Review

To: Minnesota Rule 1311 – Technical Advisory Group

Summary

This document serves as a formal staff recommendation to **disapprove** the proposed code change to Section 1007.3 of the International Existing Building Code (IEBC). The Technical Advisory Group (TAG) approved a revision that replaces the current requirement "electrical service shall meet the requirements of NFPA 70 for the new occupancy" with "electrical service shall be upgraded to meet the requirements of NFPA 70 for the new occupancy." While the Technical Advisory Group (TAG) has supported the revision, staff concludes that the change would result in unnecessarily restrictive enforcement practices and increased burden on projects.

Recommendation

Staff recommends retaining the existing language in Section 1007.3:

"1007.3 Service upgrade. *Where the occupancy of an existing building or part of an existing building is changed, electrical service shall be upgraded to meet the requirements of NFPA 70 for the new occupancy."*

This language allows building officials to determine compliance based on actual electrical load and system condition, providing necessary flexibility for enforcement and maintaining alignment with nationally adopted codes.

Rationale for Disapproval

1. Removes Professional Discretion
    - The proposed revision introduces a mandatory upgrade requirement triggered solely by a change in occupancy—even when the existing service already complies with NFPA 70. This eliminates critical judgment by code officials and inspectors, replacing performance-based evaluation with a categorical mandate.
2. Adds Unnecessary Financial Burden

- Automatic upgrade requirements can result in substantial costs for owners and developers without improving electrical safety—particularly for projects where existing service is adequate for the new occupancy.
- Impacts tenant improvements and small adaptive reuse projects
- May discourage investment in existing building stock

3. Creates Enforcement Ambiguity
    - The revised language lacks nuance and does not differentiate between minor occupancy changes and substantial ones. This could lead to inconsistent enforcement, elevated disputes, and a rise in appeals—especially in cases where services are fully compliant under current codes.

Closing

Staff acknowledges and appreciates the TAG's focus on safety and consistency. However, a more measured and performance-based approach better serves the goals of the code. By retaining the current language, code officials preserve enforcement flexibility, support economic feasibility, and ensure alignment with national standards.

Staff Recommendation:

Disapprove the proposed revision to Section 1007.3.

CCP – EB – ~~6~~13
IEBC ~~310 Elevator Hoistway Opening Protection~~1007.2 Unsafe Conditions & 1007.3 Electrical Service Upgrade
Submitted 6/27/24. TAG supported

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Stephen Ubl

Email address: stephen.ubl@ci.stpaul.mn.us

Telephone number: 651-266-9021

Firm/Association affiliation, if any: City of Saint Paul

Code or rule section to be changed: 1007.2 & 1007.3

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

Date: 06/26/2024

Model Code: 2024 IEBC

Code or Rule Section: 1007

Topic of proposal: Electrical

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).
   1311 – 2020 Minnesota Conservation Code for 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.
   Yes

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.

   1007.2 Unsafe conditions. Where the occupancy of an existing building or part of an existing building is changed, all unsafe electrical conditions shall be corrected without requiring that all parts of the electrical system comply with NFPA 70.

   1007.3 Electrical Service ~~upgrade~~. Where the occupancy of an *existing building* or part of an *existing building* is changed, electrical service shall ~~be upgraded to~~ meet the requirements of NFPA 70 for the new 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.)
   1007.2 charges that all unsafe conditions be corrected. If 1007.2 is satisfied, then there is no reason to upgrade the electrical service. By removing any unsafe condition, this would also mean that the service would meet the new demand requirements of NFPA 70 for the change of use.

2. Why is the proposed code change a reasonable solution?
   Redundancies – if unsafe conditions are removed, upgrading the service is not needed.

3. What other factors should the TAG consider?
   Cost savings are very significant with this change. Additionally, the demand in today's equipment, appliances, light fixtures, etc., are considerably more efficient than in years past, meaning, the existing services can be adequate for handling the new use.

Cost/Benefit Analysis

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

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.
   It may require an electrical engineer to assess the electrical service to determine its ability to safely function for the proposed use.

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?

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.
   Generally, a review of the existing service by a professional engineer would be acceptable to an AHJ. If the report submitted states that there are no unsafe conditions and the service can handle the proposed demand of the new use, it would then be reasonable to accept the service without replacing it.

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?
   Replacing a safe and acceptable service could add tens of thousands of dollars to a project. The current code is a minimum code and requiring an upgraded service when there are no unsafe conditions found seems quite unreasonable.

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

2024 International Model Codes Review and Update-Supplement

November 2025

Supplemental Residential Energy Code TAG (Chapter 1322)

Additional Recommended Code Changes Approved by the TAG

- Reduce the Energy Rating Index Compliance Alternative Pathway (ERI) located in chapter N1106 from 53 to 48 in Climate Zone 6 (southern 2/3 of MN) and from 52 to 47 in Climate Zone 7 (northern third of MN)
- Establish a threshold for maximum wall fenestration at 25% with additional energy savings measures for buildings with more than 25% glazing.
- Eliminates the prescriptive pathway additional energy conservation points associated with installing heat recovery and energy recovery units in homes in Climate Zones 6 and 7 because these systems are required in Minnesota climates.
- Establish a uniform window U-value rating throughout the state at U-0.27.

DEPARTMENT OF LABOR AND INDUSTRY

2024 International Model Codes Review and Update

November 2025

Table of Contents

Technical Advisory Group Review of the 2024 International Model Building Codes

Introduction

The Minnesota Legislature requires the Commissioner of the Department of Labor and Industry to review the International Model Building Codes every six years for their potential adoption as amended for use in Minnesota, beginning with the 2018 edition of the model codes.[1] The Commissioner must consult with the Construction Codes Advisory Council ("CCAC").[2] The CCAC is to review the new model codes in order to provide recommendations to the Commissioner for their adoption and recommendations for revisions to current Minnesota Rules.[3] To facilitate their review of the model codes, the CCAC appointed twelve Technical Advisory Groups ("TAGs") and their members to review the 2021 and 2024 International Model Building Codes ("I-codes"), compare them to the current Minnesota rules which largely adopt the 2018 I-codes as amended for use in Minnesota, and report their findings.

Each TAG held open meetings that allowed the public to attend and participate in the review and discussion of changes in the 2021 and the 2024 I-codes. As a result, TAG members and the public identified concerns and drafted code change proposals to address those concerns. The TAG members and the public also discussed and identified any significant issues raised by those proposals.

Many of these code change proposals were editorial such as renumbering Minnesota rule parts to align with the 2024 I-codes or deleting code sections from Minnesota rules that are no longer necessary because the 2024 I-codes have adopted similar language. These types of changes recommended by TAG members do not require CCAC review because they do not present meaningful or substantive changes to the provisions of the 2024 I-codes or current Minnesota rules.

This report highlights some of the more significant changes in the 2024 I-codes and those code change proposals that TAG members recommend to the CCAC. The TAG members reviewing ANSI/ASHRAE/IES Standard 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings ("ASHRAE 90.1") have not completed their reviews, but an appendix below includes an update on their progress and code change proposals that have been reviewed.

The appendixes also discuss code change proposals that TAG members could not agree to recommend to the CCAC or were reviewed by TAG members since the previous report reviewing the 2024 I-codes, as well as the membership roster for each of the TAGs.

[1] *See* Minnesota Statutes, section 326B.106.
[2] *See* Minnesota Statutes section 326B.106, subdivision 1.
[3] *See* Minnesota Statutes section 326B.07.

- Appendix A summarizes code change proposals TAG members did not agree to recommend to the CCAC but identify as areas of concern with the provisions of the 2024 I-codes or current Minnesota code provisions and suggest modifications.
- Appendix B summarizes code change proposals that were reviewed since the previous report of TAG member findings.
- Appendix C summarizes code change proposals reviewed by the members of the Commercial Energy Code TAG. This includes code change proposals that TAG members agreed to recommend to the CCAC and proposals that they did not agree to recommend.
- Appendix D lists the TAGs, their members, and the organizations they represent.

TAG Recommendations

Residential Building Code TAG (Chapter 1309)

Residential Building Code TAG members met twenty times to review chapters 2 through 10 of 2024 IRC and Minnesota Rules, chapter 1309, which adopts the 2018 IRC with amendments. TAG members received forty-two code change proposals. The Residential Building Code TAG members recommend adopting the 2024 IRC with the following significant proposed code changes.

Recommended Code Changes

- Modify section R319.5 of the 2024 IRC requirements for replacement windows serving as emergency escape and rescue openings. The TAG members recommended two code change proposals. Both proposals clarify that a replacement window that is a part of a change of use of a space to one where an emergency escape and rescue opening is required cannot comply with section R319.5 but differ as to the requirements for existing windows serving as emergency escape and rescue openings that are replaced with windows of a different operating style:
    - The first proposal requires replacement windows that are of a different operating style to provide a minimum net clear opening of 4 square feet with a minimum net clear opening height of 22 inches and a minimum net clear opening width of 20 inches.
    - The second proposal reformats section R319.5 but maintains the requirements of the current code and the 2024 IRC that permit replacement windows for emergency escape and rescue openings to be of the same operating style as the existing window or a style that provides an equal or greater opening area than the existing window.

  The first proposal was withdrawn and DLI staff recommend adopting section R319.5 of the 2024 IRC without any modifications.

- Modify section R319.7.1 of the 2024 IRC requirements for the opening dimensions for windows in spaces undergoing a change of occupancy to one where an emergency escape and rescue opening is required. The proposed change requires existing operable windows and replacement windows to meet a

minimum net clear opening of 4.5 square feet, minimum net clear opening height of 22 inches, and a minimum net clear opening width of 20 inches.

- Repeal existing Minnesota Rules, part 1309.0323, to require any storm shelters or safe rooms that are provided to comply with the requirements of ICC 500.
- Modify section R401.5 of the 2024 IRC to require a registered design professional to provide an assessment when excavation will reduce the support for any existing foundations that are adjacent to the site. The assessment will include plans for underpinning and protection of the adjacent foundations.
- Modify section BB104.2 of the 2024 IRC to increase the ceiling height from 36 inches feet to 42 inches at the access to and primary egress from lofts in tiny houses.
- Adopt Appendix BJ of the 2024 IRC to permit strawbale construction with the following modifications to the code requirements.
    - Modify sections BJ103.4 and BJ103.5 to require an approved third party to periodically test the moisture content and dry density of bales during construction.
    - Modify Appendix BJ to add a new section that requires the application of silicate mineral paint to exterior plasters that are directly applied over strawbale walls.
    - Modify section BJ105.6.6 to increase the separation of bales and exterior plaster from 8 inches to 12 inches.
    - Modify section BJ105.6.7 to increase the separation of the exterior plaster and earth from 6 inches to 8 inches.
    - Modify Appendix BJ to add a new section that requires roof overhangs with a 20-inch horizontal projection for one-story buildings and 30-inch horizontal projections for two-story buildings unless the exterior strawbale walls are provided with ventilated cladding.
- Adopt Appendix BL of the 2024 IRC to permit hemp-lime construction with the following modifications to the code requirements.
    - Modify section BL103.5 to clarify that mechanical, electrical, and plumbing components that are made of metal are to be isolated from the hemp-lime infill by means of sleeves, pipes, conduits or tubing made of plastic or be separated from hemp-lime with approved alkaline-resistant materials.
    - Modify Appendix BL to add a new section that requires roof overhangs with a 16-inch horizontal projection for one-story buildings and a 24-inch horizontal projection for two-story buildings unless the exterior hemp-lime walls are provided with a ventilated cladding system.

Residential Energy Code TAG (Chapter 1322)

The Residential Energy Code TAG members met ten times to review chapter 11 of 2024 IRC and Minnesota Rules, chapter 1322, which adopts the residential provisions of the 2012 IECC with amendments. TAG members received eighteen code change proposals for chapter 11 of the 2024 IRC and had previously reviewed 37 code change proposals for the residential provisions of the 2021 IECC. The Residential Energy Code TAG members recommend adopting chapter 11 of the 2024 IRC with the following significant proposed code changes.

Recommended Code Changes

- Modify section N1101.6 of the 2024 IRC to define "residential buildings" as detached one- and two-family dwellings and townhouses so the Minnesota Residential Energy Code no longer applies to Group R-2, R-3, and R-4 buildings that are 3 stories or less. The scope of Minnesota Rules, chapter 1323, will be modified to include all Group R-2, R-3, and R-4 buildings.
- Modify section 1102.1.3 of the 2024 IRC to provide alternative building envelope insulation options for the prescriptive compliance path.
- Modify sections 1102.1.4 and 1102.1.5 of the 2024 IRC to provide thermal performance backstops by prohibiting the total area of wall fenestration from exceeding 25 percent of the above grade wall area and replacing the component performance alternation with a Total UA (U-factor times area).
- Modify section N1102.5.1.3 of the 2024 IRC to change the air leakage metric from air changes per hour at 50 Pascals ("ACH50") to cubic feet per minute per square foot at 50 Pascals ("CFM50") and require buildings to comply with an air leakage rate not greater than 0.18 CFM per square foot. The change in metrics allows air leakage to be assessed based on the exterior envelope area of the building.
- Delete section N1105 of the 2024 IRC to eliminate the simulated building performance as a compliance option.
    - Some TAG members were concerned that the proposal will increase the cost of construction by eliminating a compliance option that allows for additional design flexibility. Other TAG members were concerned that the simulated building performance is too complex compared to the other performance option, the Energy Rating Index ("ERI"), and will allow for dwellings with less energy efficient building envelopes than those constructed in compliance with prescriptive requirements.
- Modify section N1108.2 of the 2024 IRC to require buildings to earn 20 credits instead of 10 credits from Table N1108.2 and modify Table N1108.2 to provide additional energy efficiency credits for the installation of a federal minimum efficiency heat pump or electric storage water heater.
- Modify section N1111.1.1.3 of the 2024 IRC to delete requirements for the installation of continuous wall insulation where the full extent of an exterior façade or wall covering of an existing dwelling is undergoing replacement.
- Amend current Minnesota Rules, part 1322.0402, subpart 2, to delete exterior nondraining foundation insulation requirements and no longer require a 6-mil polyethylene slip sheet over the entire exterior surface of the insulation.

Fire Code TAG (Chapter 7511)

The Fire Code TAG members met three times to review the 2024 International Fire Code, Minnesota Rules, chapter 7511, which adopts the 2018 IFC with amendments. TAG members reviewed thirty code change proposals that were previously reviewed and recommended by the Minnesota State Fire Chiefs Association Code Committee ("MSFCA"). The Fire Code TAG members recommend adopting 2024 IFC with the following significant proposed code changes.

Recommended Code Changes

- Amend current Minnesota Rules, part 7511.0901, to require the annual inspection of NFPA 13D automatic sprinkler systems in licensed care facilities.
- Amend current Minnesota Rules, part 7511.0906, subpart 1, to permit portable fire extinguishers to be mounted in locations that are obstructed from view in Group R-3 and R-4 licensed care facilities with the approval of the fire code official.
- Modify section 1103.9 of the 2024 IFC to not require interconnected carbon monoxide alarms when the code in effect at the time of construction did not require carbon monoxide detectors to be provided and to not require interconnected carbon monoxide alarms in dwelling units that are not served from a commercial power source. The 2024 IFC allows most existing buildings to be equipped with battery-operated carbon monoxide alarms that are interconnected instead of a carbon monoxide detection system. However, only a limited number of battery-operated alarms can be wirelessly interconnected so commercial occupancies would have to install a more costly carbon monoxide detection system. The proposed change will alleviate the cost burden of providing a full carbon monoxide detection system.
- Amend current Minnesota Rules, part 7511.1103, subpart 8, to add an exception that requires the installation of interconnected smoke alarms that are battery-powered in state licensed Group I-1 and R occupancies.
- Amend current Minnesota Rules, part 7511.1104, subpart 15, to require aisle accessway widths in areas of existing buildings without seating to comply with the aisle accessway widths required by chapter 1305.

Conclusion

1. TAG members reviewed the 2024 I-codes and recommend the adoption of the 2024 IRC, the residential energy provisions of chapter of 11 of the 2024 IRC, and 2024 IFC.
2. TAG members reviewed and recommended adoption of code change proposals that modify the 2024 I-codes or amend an existing Minnesota code provision as described in this report to promote consistency among the building codes, to ensure uniform safety standards, and to accommodate Minnesota's climatic conditions.

Appendix A

TAG members did not agree to recommend all code change proposals they reviewed. Although TAG members did not agree to recommend the following code change proposals, the CCAC should be aware of the concerns they identify.

Residential Building Code TAG (Chapter 1309)

Other Code Change Proposals

TAG members did not agree to recommend the following code change proposals:

- Modify chapter 3 of the 2024 IRC to require a continuous raceway or cable assembly be provided to parking spaces for one- and two-family dwellings and townhouses.

Residential Energy Code TAG (Chapter 1322)

Other Code Change Proposals

TAG members did not agree to recommend the following code change proposals:

- Modify section N1101.9 of the 2024 to require the calculation of heating loads using the mean average extreme temperature based on weather data published in ASHRAE Standard 169-2013.
    - TAG members previously recommended a code change proposal that requires summer cooling loads be calculated using the 1 percent of the annual of cooling design conditions and winter heating loads be calculated using the 99.6 percent heating dry bulb value. The proposal includes a table with weather data from ASHRAE Standard 169-2013 for several cities in Minnesota.
- Modify section N1101.13 of the 2024 IRC to require buildings constructed in accordance with the prescriptive or performance path to comply with the same minimum requirements for thermal envelope efficiency.

Fire Code TAG (Chapter 7511)

Other Code Change Proposals

TAG members did not agree to recommend the following code change proposals:

- Amend current Minnesota Rules, part 7511.1103, subpart 8, to require battery powered smoke alarms in existing buildings to have a nonreplaceable, nonremovable battery that can power the alarm for a minimum of 10 years. TAG members believe the proposal is better addressed through the national model code development process.

Appendix B

The Administration and Minnesota Provisions TAG has previously submitted reviews of their findings. Appendix B includes significant code change proposals that the TAG has reviewed since the previous report in July 2025.

Administration and Minnesota Provisions (Chapters 1300 and 1301)

Administration and Minnesota Provisions TAG members recommend the following amendments to Minnesota Rules, parts 1300.0070 and 1301.0300.

- Amend current Minnesota Rules, part 1300.0070, to update the definition for manufactured home and add definitions for mobile home, industrialized/modular construction, prefabricated building, and tiny house.
- Amend current Minnesota Rules, part 1301.0300, to award applicants for certified building official and building official-limited 60 points for obtaining a Construction Codes and Inspections certificate that is a 30-college credit program and 28 points for obtaining a Building Inspections Certificate that is a 14-college credit program.

Appendix C

The Commercial Energy Code TAG has not completed their review of the 2022 edition of ASHRAE 90.1 and Minnesota Rules, chapter 1323, which adopts the 2019 edition of ASHRAE 90.1 with amendments. However, Appendix C includes significant code change proposals the TAG members have recommended as amendments and those code change proposals that they did not agree to recommended that identify areas of concern with the provisions of the model code or current Minnesota code provisions.

Recommended Code Changes

- Modify section 5.4.3.1.4 of ASHRAE 90.1-2022 to reduce to the air leakage rate from 0.35 cfm/ft^2 to 0.30 cfm/ft^2 and add new section 5.4.3.1.5 that requires the weighted average air leakage rate to be reduced from 0.30 cfm/ft^2 to 0.23 cfm/ft^2 for dwelling or sleeping units and other conditioned spaces in Group R-2 and I-1 occupancies.
- Modify section 6.5 of ASHRAE 90.1-2022 to require gas-fired warm air furnaces installed in non-transient dwelling units to have a minimum efficiency of 93 AFUE unless the unit is provided with a more efficient ERV, fenestration that complies with a lower U-factor, and a lower maximum air leakage rate. The proposal will be updated to address all-electric buildings.
- Modify sections 6.5.6.1.1 and 6.5.6.1.2.1 of ASHRAE 90.1-2022 to increase the sensible energy recovery ratio for energy recovery ventilation ("ERV") for non-transient dwelling units from 60 percent to 70 percent, increase the sensible energy recovery ratio for ERVs serving spaces other than apartments to more than 70 percent, and increase the enthalpy recovery ratio for ERVs serving spaces other than apartments to at least 60 percent at cooling design conditions. The proposal also clarifies other requirements for exhaust air energy recovery.
- Modify Table 6.5.6.1.2-1 of ASHRAE 90.1-2022 to require single-zone system ventilation systems that operate less than 8,000 hours per year in climate zone 6A to comply with the exhaust air energy recovery requirements for climate zone 7.
- Modify section 9.4.4 of ASHRAE 90.1-2022 to require horticultural lighting in greenhouse spaces or indoor grow spaces to have a minimum photosynthetic photo efficacy ("PPE") of at least 2.5 µmol/J and to permit lighting with a PPE of at least 1.7 µmol/J where the lighting load is less than 40 kW.
- Delete section 10.5.1 of ASHRAE 90.1-2022 to not require on-site renewable energy equipment on building sites.
- Modify sections 12.2 and G1.2.1 of ASHRAE 90.1-2022 to provide a thermal envelope trade-off backstop for the performance path by not permitting the proposed envelope performance factor to exceed the base envelope performance factor.

Other Code Change Proposals

TAG members did not agree to recommend the following code change proposals.

- Delete section 12 of ASHRAE 90.1-2022 to eliminate the Energy Cost Budget Method as a compliance option.

- Modify Normative Appendix G of ASHRAE 90.1-2022 to replace references to energy cost with site energy and require electric resistance heat sources to be modeled at the same efficiency as the baseline system.

Appendix D

The CCAC appointed twelve TAGs and their members to review the 2021 and 2024 International Model Building Codes ("I-codes"), compare them to the current Minnesota rules, which largely adopt the 2018 I-codes as amended for use in Minnesota. The members of the TAG were appointed to represent associations with experience with each of the model codes. Below is a list of TAG members and the organizations they represent.

Residential Building Code TAG

TAG representation	Member	Employer	Association
DLI staff	Terence Olson	DLI	Construction Codes and Licensing Division ("CCLD")
	Jesse Szykulski	DLI	CCLD
	Chris Rosival	DLI	CCLD
Code compliance	Lisa Hartwig	City of Minneapolis	Large Municipalities
	Steve Kartak	City of Eden Prairie	AMBO
	Greg Olson	ProEd Resources	AMBO
	Keith Demarest	City of Anoka	AMBO
	Nathan Weber	City of Detroit Lakes	AMBO
Residential building industry	Curtis Johnson	Pulte Homes	Housing First Minnesota
Licensed architect	Kyle Thrapp	McMonigal Architects	American Institute of Architects Minnesota (MN AIA)

Residential Energy Code TAG

TAG representation	Member	Employer	Association
DLI staff	Steve Shold	DLI	CCLD
	Chris Rosival	DLI	CCLD
Code compliance	Randy King	Prokore	Building officials
Residential builders	Greg Olson	Olson Associates Consulting	Builders Association of Minnesota (BAM)

	Eric Boyd	ARCXIS	Housing First Minnesota
	Jim Kummon	Heirloom Properties	Small developers
	Mike Robertson	Habitat for Humanity	NGO home builders
Mechanical engineer	John Smith	Consultant	Practical Engineering
Licensed architect	Alyssa Jagdfeld	SALA Architects	MNAIA
Energy advocacy	Isaac Smith	Center for Energy and Environment	Residential programs
	Eric Fowler	Fresh Energy	Public interest and energy conservation
	Alison Lindburg	Midwest Energy Efficiency Alliance	Energy advocacy

Fire Code TAG

TAG representation	Member	Employer	Association
State Fire Marshal	Forrest Williams	DPS	SFMD
	Thomas Jenson	DPS	SFMD
Fire code compliance	Dean Mau	DLI	CCLD
Fire service official	Lisa Consie	Duluth Fire	MSFCA
Fire service/code official	Alisa Schuster	Golden Valley Fire	MSFCA/FMAM
Fire marshal/Building official	Mark Lucht	City of Becker	FMAM
Building official	Jerry Norman	City of Rochester	
Architect	Roger “Lars” Larson	BWBR	MN AIA
Fire alarm system designer	Dan Morehead	Master Technology Group	MNAFAA
Fire Protection Engineer	Scott Futrell	SFPE MN	OnSite Engineer

Administration and Minnesota Provisions TAG

TAG representation	Member	Employer	Association
DLI staff	Greg Metz	DLI	CCLD
	Paul Swett	DLI	CCLD
Code compliance	Scott Anderson	City of Minneapolis	Large Municipalities
	Arlen Madsen	City of Eagan	AMBO
	Tyler Krahn	City of Rochester	AMBO
	Lonnie Johnson	City of Hastings	AMBO
Building officials	Jerry Backlund	City of Hastings	AMBO
	Jared Ellingson	University of Minnesota	Post secondary education
Residential building industry	Mike Swanson	Brandl-Anderson Homes	Housing First
Licensed architect	David Selinsky	ISG Architects & Engineers	American Institute of Architects Minnesota (MN AIA)

Commercial Energy Code TAG

TAG representation	Member	Employer	Association
DLI staff	Steve Shold	DLI	CCLD
	Chris Rosival	DLI	CCLD
Municipal building official	Dennis Schilling	City of West St. Paul	AMBO
Licensed architects	Rachael Spires	BWBR Architects	MN AIA
Engineering	John Smith	Consultant	Mechanical Engineering
	Russ Landry	Center for Energy and Environment	Energy Conservation Engineer
	Eric Johansen	CenterPoint Energy	Energy Efficiency Engineer
	Richard Hermans	Mechanical Engineering	MN Chapter of ASHRAE

Energy advocacy	Michael Waite	American Council for an Energy-Efficient Economy	Energy conservation advocate
	Sam Friesen	Fresh Energy	Building energy efficiency
	Chris Burgess	Midwest Energy Efficiency Alliance	Energy advocacy

SAVE AS

Reset

Boards of Electricity and High Pressure Piping and the Construction Codes Advisory Council Department of Labor and Industry

Board/Council Meeting Open Forum Request

Please keep your presentation to 5 minutes or less.

- Please send this form to lyndy.logan@state.mn.us at **least 1 hour prior to the start of the meeting. Presentations/handouts MUST be sent at least 1 day prior.**
- Availability based on length of meeting and number of requestors.

Name of Board/Council	Date of Meeting	Will you be attending meeting in person or by phone?
Construction Codes Advisory Council	11/14/25	In-person

Name	Street/Mailing Address	Phone Number
Eric Fowler	408 Saint Peter St, Ste 220	651 374 1315

City	State	Zip	Email Address
Saint Paul	MN	55102	fowler@fresh-energy.org

Representing/Company Name
Fresh Energy

Topic:
R333, a code change requiring conduit installation for future electric vehicle charging.

- Send this form and related materials to Lyndy at: lyndy.logan@state.mn.us
- For meeting information, including Open Forum Request forms, please visit the department's Boards and Council web-page at: https://www.dli.mn.gov/about-department/boards-and-councils

Fresh Energy

Residential EV Charging

11/14/25

EV Uptake is Exponential

- Almost 80,000 EVs on the road in MN today
- 7% of new sales in 2024
- MnDOT's goal: 20% of light-duty vehicles registered in Minnesota to be EVs by 2030

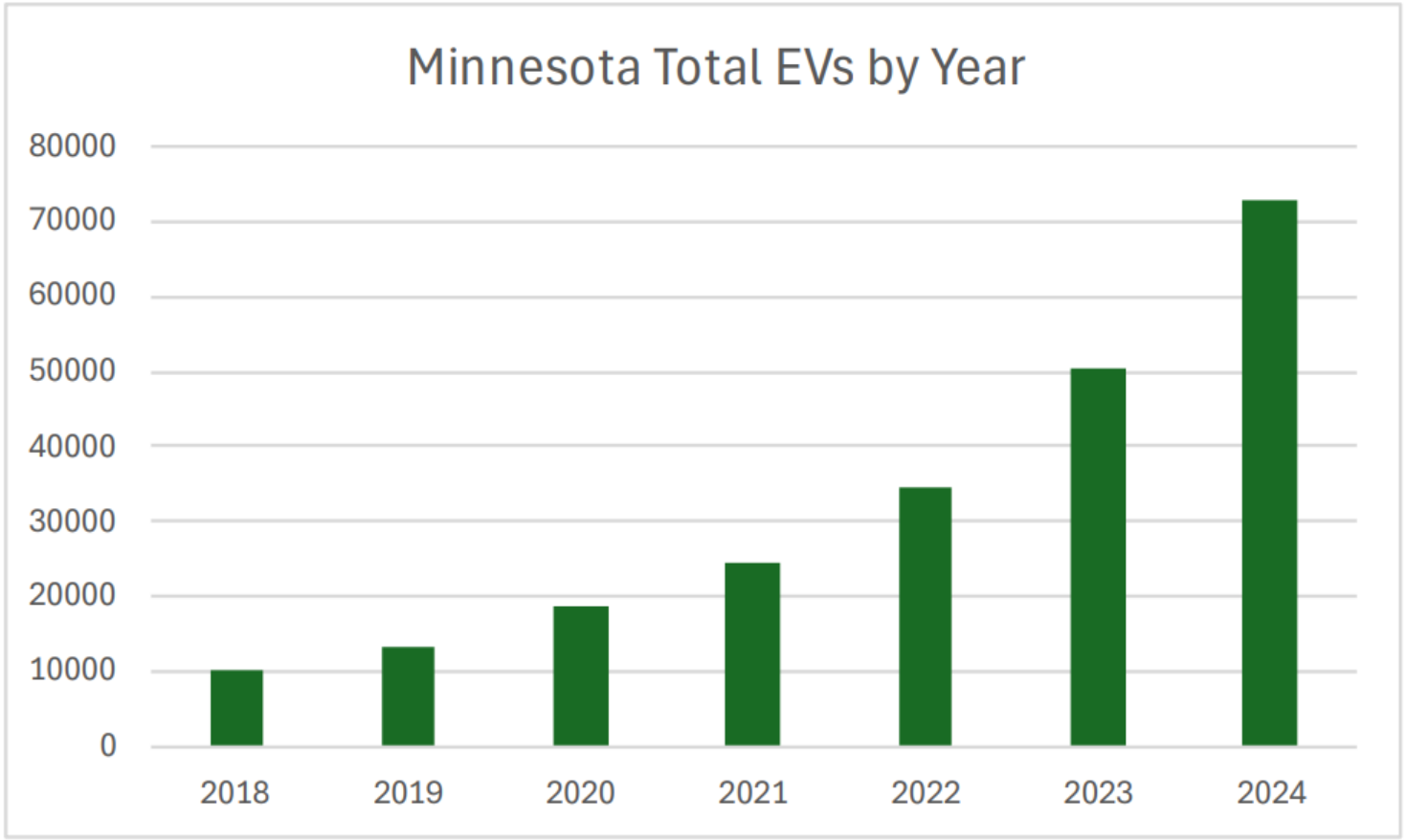

Figure 1:

Registered EVs in Minnesota by year.

Fresh Energy

EV Uptake is Exponential

- Over 100 models available in the US today (EVInfoList.com)
- Ford announced $5 billion EV investment in August
- Growing used market

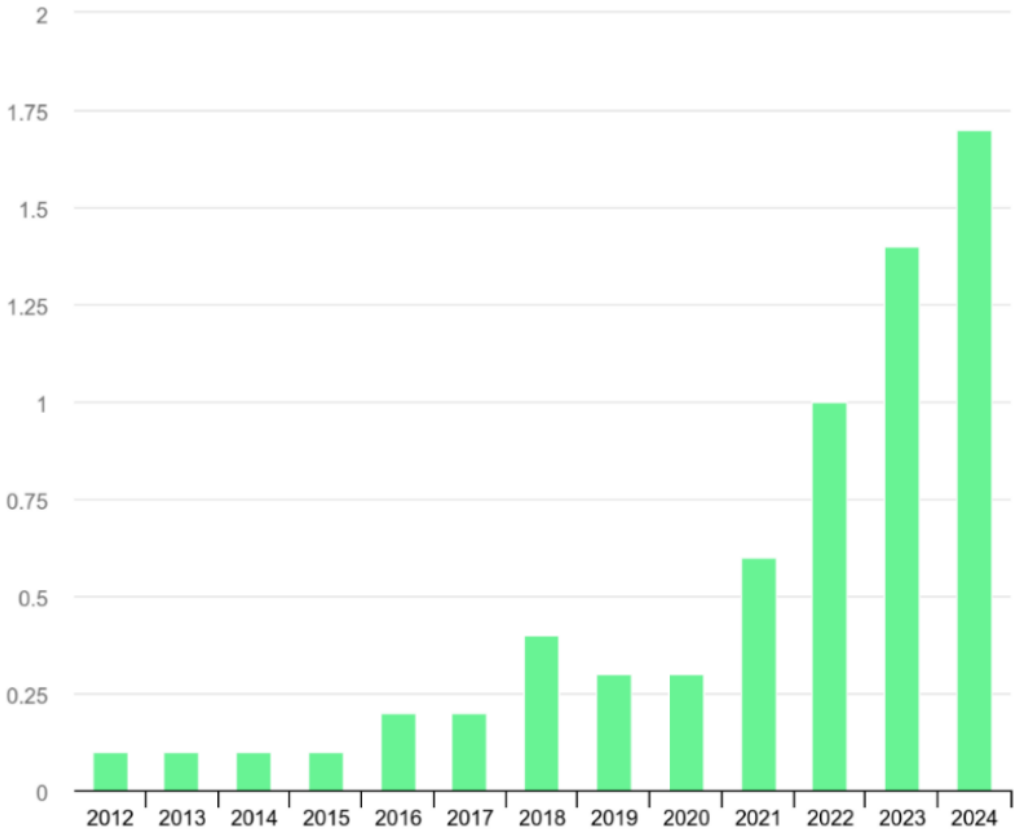

Figure 2: Millions of EV sales in the United States

Fresh Energy

Charging

- 80% of EV charging happens at home
- Hard-wired level 2 charger is
  - Safer than extension cords to dryer outlets
  - 5-20% more efficient than level 1 (110 outlet)
  - Most affordable
    - special charging rates can save 50%-80% per kWh, in addition to better efficiency
  - Most convenient
    - 10-50 miles per hour vs 2-5 miles per hour at level 1
  - Grid benefits

Fresh Energy

Proposal: add EV readiness to the residential code

- Option 1: EV Capable
  - Conduit or prewiring for future electric vehicle supply equipment (EVSE)
  - Reserved electric panel space
    - Includes exception if this increases the utility side cost to the builder or developer by more than $450 per dwelling unit
  - Industry standard
  - Easily use Appendix NE
- Option 2: Conduit only
  - Conduit or prewiring only
  - Simpler requirement, but less standard and further from model code
- Recommended Exception
  - The raceway or cable assembly and the enclosure or junction box are not required where the electrical distribution equipment or panelboard is located in the same room as the EV capable space.

Fresh Energy

Avoided costs

- Preparing buildings saves significantly over retrofits
  - Conduit install: $100-$250 if 50% comply through panel location in the garage ($200-$500 base)
  - $2,000-$3,500 retrofit without conduit
    - May include trenching, sod, drywall, texture, painting, other work in addition to electrical work
  - $500-$1,750 retrofit with conduit
  - Net savings after 7%-14% install EVSE
- Atlas Public Policy: in MN, EV prep in code could save consumers $143,309,000 through 2035

Fresh Energy

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: Eric Fowler

Date: 5/13/25 Updated 6/25/25

Email address: fowler@fresh-energy.org

Model Code: 2024 IRC

Telephone number: 651-374-1315

Code or Rule Section: IRC Chapter 3

Firm/Association affiliation, if any: Fresh Energy

Code or rule section to be changed: Add Section R333

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).
Appendix NE

☐ 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.

   Not directly, however, the State Building Code is established for safety and wellbeing, and to promote the "use of modern methods, devices, materials and techniques." This proposal removes barriers to the safest, most affordable EV charging solution: at home, hard-wired, Level 2 EVSE.

   Preparing buildings for the trend in consumer adoption of EVs (which are charged mostly in the home) is directly responsive to the statutory purpose of the code by increasing safety and adapting to modern technology in a changing market.

   Minimum requirements for EV ready and capable parking spaces in commercial and multifamily buildings passed during the 2023 legislative session.

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.

Adopt Appendix NE (Re) Electric Vehicle Charging Infrastructure from the 2024 IRC as amended below, incorporating definitions, and adding remaining content to a new section: R333

Definitions.

AUTOMOBILE PARKING SPACE. A space within a building or private or public parking lot, exclusive of driveways, ramps, columns, office and work areas, for the parking of an automobile.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, and electric motorcycles, primarily powered by an electric motor that draws current from a building electrical service, EVSE, a rechargeable storage battery, a fuel cell, a photovoltaic array, or another source of electric current.

Electric Vehicle Capable Space (EV Capable Space). A designated automobile parking space that is provided with electrical infrastructure ~~such as, but not limited to, raceways, cables, electrical capacity, a panelboard or other electrical distribution equipment space~~ necessary for the future installation of an EVSE load of 6.2 kVA or greater, including electrical panel capacity and space to support a circuit, and raceways, both underground and surface mounted.

Electric Vehicle Ready Space (EV Ready Space). ~~An~~ A designated automobile parking space that is provided with a branch circuit terminating in ~~and~~ an outlet, junction box or receptacle that will support an installed EVSE load of 6.2 kVA or greater.

Electric Vehicle Supply Equipment (EVSE). Equipment for plug-in power transfer, including the ungrounded, grounded, and equipment grounding conductors, and the Electric Vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the Electric Vehicle.

Electric Vehicle Supply Equipment Installed Space (EVSE Space). An automobile parking space that is provided with a dedicated EVSE connection.

Section R333 Electric Vehicle Charging Infrastructure

R333.1 ~~NE101.2 (RE101.2)~~ Electric vehicle power transfer infrastructure.
New residential automobile parking spaces for residential buildings shall be provided with a continuous raceway or cable assembly as required by Sections R333.2 and R333.3 or be provided with EV capable spaces, EV ready spaces, or EVSE spaces in the quantities required by section R333.2. Where provided, EV capable spaces shall comply with section R333.4, EV ready spaces shall comply with section R333.5, and EVSE spaces shall comply with section R333.6.

R333.2 ~~NE101.2.1 (RE101.2.1)~~ Quantity.

New one- and two-family dwellings and townhouses with a designated attached or detached garage or other on-site private parking provided for ~~adjacent to~~ the dwelling unit shall be provided with a continuous raceway or cable assembly for each dwelling unit as required by section R333.3 or one EV capable, EV ready or EVSE space per dwelling unit.

R333.3 Continuous raceway or cable assembly. A continuous raceway or cable assembly shall be provided that complies with all of the following:

1. A continuous raceway with a minimum of ¾ inch internal diameter or cable assembly shall be installed between a suitable panelboard or other on-site electrical distribution equipment and an enclosure or junction box ~~outlet~~ located within 6 feet (1828 mm) of the automobile parking space.
    a. Exception: the raceway or cable assembly and the enclosure or junction box are not required where the electrical distribution equipment or panelboard is located in the same room as the EV capable space.
2. The installed raceway or cable assembly shall be sized and rated to supply a minimum circuit capacity in accordance with section R333.7

R333.4 ~~NE101.2.2 (RE101.2.2)~~ EV Capable Spaces.

Where provided, each EV capable space ~~used to meet the requirements of Section R333.2 NE101.2.1~~ shall comply with all of the following:

1. A continuous raceway with a minimum of ¾ inch internal diameter or cable assembly shall be installed between a suitable panelboard or other on-site electrical distribution equipment and an enclosure or junction box ~~outlet~~ located within 6 feet (1828 mm) of the EV capable space.
    1. Exception: the raceway or cable assembly and the enclosure or junction box are not required where the electrical distribution equipment or panelboard is located in the same room as the EV capable space.
2. The installed raceway or cable assembly shall be sized and rated to supply a minimum circuit capacity in accordance with Section R333.7. ~~NE101.2.5.~~
3. The electrical distribution equipment to which the raceway or cable assembly connects shall have sufficient dedicated space and spare electrical capacity for a two-pole circuit breaker or set of fuses.
4. The electrical enclosure or junction box ~~outlet~~ and the electrical distribution equipment directory shall be marked: “For future electric vehicle supply equipment (EVSE).”

R333.5 ~~NE101.2.3 (RE101.2.3)~~ EV Ready Spaces.

Where an EV Ready Space is provided, each branch circuit serving EV ready spaces shall comply with all of the following:

1. Termination at an outlet or enclosure located within 6 feet (1828 mm) of each EV ready space it serves and marked “For electric vehicle supply equipment (EVSE).”
2. Service by an electrical distribution system and circuit capacity in accordance with Section R333.7 ~~NE101.2.5~~.
3. Designation on the panelboard or other electrical distribution equipment directory as “For electric vehicle supply equipment (EVSE).”

R333.6 ~~NE101.2.4 (RE101.2.4)~~ EVSE Spaces.

An installed EVSE with multiple output connections shall be permitted to serve multiple EVSE spaces. Each EVSE serving either a single EVSE space or multiple EVSE spaces shall comply with the following:

1. Be served by an electrical distribution system in accordance with Section R333.7. ~~NE101.2.5.~~
2. Have a nameplate charging capacity of not less than 6.2 kVA ~~(or 30A at 208/240V)~~ per EVSE space served. Where an EVSE serves three or more EVSE spaces and is controlled by an energy management system in accordance with Section R333.7. ~~NE101.2.5.~~ the nameplate charging capacity shall be not less than 2.1 kVA per EVSE space served.
3. Be located within 6 feet (1828 mm) of each EVSE space it serves.
4. Be installed in accordance with NFPA 70 and be listed and labeled in accordance with UL 2202 or UL 2594.

R333.7 ~~NE101.2.5 (RE101.2.5)~~ Electrical distribution system capacity.

Where an EV capable space, EV ready space, or EVSE space is provided, the branch circuits and electrical distribution system serving each space ~~EV capable space, EV ready space and EVSE space used to comply with Section R333.2 NE101.2.1~~ shall comply with one of the following:

1. Sized for a calculated EV charging load of not less than 6.2 kVA per EVSE, EV ready or EV capable space. Where a circuit is shared or managed, it shall be in accordance with NFPA 70.
2. The capacity of the electrical distribution system and each branch circuit serving multiple EVSE spaces, EV ready spaces or EV capable spaces designed to be controlled by an energy management system in accordance with NFPA 70 shall be sized for a calculated EV charging load of not less than 2.1 kVA per space. Where an energy management system is used to control EV charging loads for the purposes of this section, it shall not be configured to turn off electrical power to EVSE or EV ready spaces used to comply with Section R333.2 ~~NE101.2.1~~.

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.

   Not necessarily, though all installations will also need to be Electric Code compliant.

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.)

Overview

Electric vehicle (EV) adoption is on the rise in Minnesota, and across the country, as options expand, battery technology improves, and upfront prices come closer to gasoline-powered vehicles.[1]

While the simplest option to charge at home for many EV owners will be the NEMA 14-50 outlet common in laundry rooms, such outlets also represent the least safe option. Preparing homes for straightforward retrofits by providing conduit for easy future wiring of EVSE will significantly reduce the barrier to affordable, safe Level 2 charging.

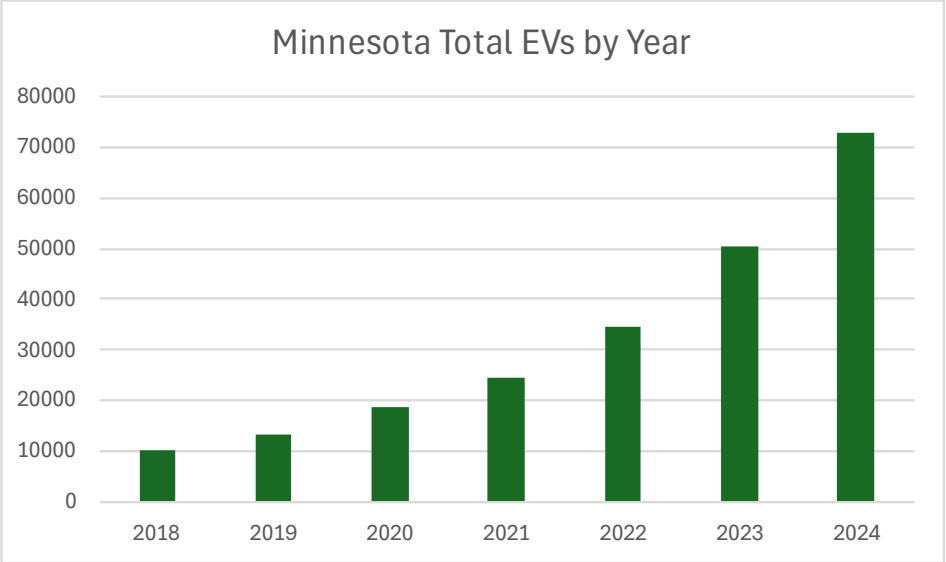

Figure 1:

Registered EVs in Minnesota by year.

The growth of EVs is exponential, not linear. This shift in transportation also brings an inevitable shift in home energy use. For many, the garage is the new gas station, and Minnesota residents will be less safe and waste more money on retrofits if we do not prepare for this new reality. 80% of EV charging in the US happens at home, not at public chargers.[2]

Last month, Atlas Public Policy published a study finding that in Minnesota alone, failure to adopt EV preparedness measures could cost consumers $143,309,000 through 2035.[3] By preparing new homes with consumer options in mind, the Department will reduce the burden of costly retrofits post-construction, and maintain a code that provides for the "use of modern methods, devices, materials and techniques," as required by statute. It will also reduce the risk of shock, fire, and other hazards from makeshift workarounds such as plugging an EV into a dryer outlet using a NEMA 14-50 extension cord that was not designed for the electrical or physical demands of EV charging.

Background

6/25/25 Update: Following feedback from the IRC TAG meeting in May, this proposal removes the requirement to provide reserved electrical capacity.

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[1] 73,435 EVs are currently on the road as of 4/1/25 according to EvaluateMN, via MnDOT Electric Vehicle Dashboard: https://www.dot.state.mn.us/sustainability/electric-vehicle-dashboard.html.
Chart and data from the Minnesota Public Utilities Commission, accessed June 24, 2025, https://mn.gov/puc/activities/economic-analysis/electric-vehicles/

[2] "Trends in Electric Vehicle Charging – Global EV Outlook 2024 – Analysis," IEA, accessed April 24, 2025, https://www.iea.org/reports/global-ev-outlook-2024/trends-in-electric-vehicle-charging.

[3] Ben Sharpe, Lucy McKenzie, and James Di Filippo, "Cost Savings From Ev- Enabling Building Codes for Multifamily Housing" (Atlas Public Policy, May 2025).

This is an updated version of a code change proposal first presented to the Residential Energy TAG on January 2, 2024 as a requirement for EV Ready parking. Advocates have since incorporated feedback to allow conduit instead of pre-wiring, reducing the requirement from EV Ready to EV Capable. This version also adds an exemption where the electric panel is already in the garage, as suggested at a previous meeting, and incorporates flexibility to work with a local utility in case of grid constraints, as provided in the newest model language: 2024 IRC Appendix RE.

On February 26, 2024, the Residential Energy TAG voted narrowly (7-6) to approve an updated EV Capable CCP for inclusion in the IECC 2021. On April 7, 2025, the Residential Energy TAG was split (5-5) on the EV Capable CCP, with some indicating they would support a conduit-only version that did not require reservation of electric panel space.

Safety

As EV adoption rises so does at home charging. This will continue whether or not the Department requires EV preparedness in new construction.

What the Department can improve is the safety (specifically fire and shock danger) and affordability of EV charging when residents plug in at home. Without preparing modern homes for modern vehicles, many residents will plug their EVs into NEMA 14-50 outlets intended for dryers, which can be unsafe in multiple ways:

1. These outlets are not designed for the hours of uninterrupted, high loads of EV charging
2. These outlets are not designed for the frequency of plugging and unplugging required to manually share one receptacle between a dryer and an EV
3. Unlike hard-wired chargers, these outlets also pose the risk of shock due to the possibility of exposed pins
4. Due to the outlet's location, it will likely be connected to the EV by an extension cord that represents another point of equipment failure, multiplying the above hazards
5. The extension cord also represents a trip hazard

In order to address some of the above issues with standard 14-50 receptacles, Leviton (for example) offers a dedicated EV charging 14-50 receptacle.[4] However, these are unlikely to exist in laundry rooms without specification.

Savvy users may know that reducing the maximum amperage the EV will draw during charging can greatly reduce the risks associated with extension cords and outlets. However, the safest charging option will always be a hard-wired charger, which this code change makes much easier to install.

Other jurisdictions

Minnesota would also be following the lead of numerous other jurisdictions who have included EV ready or capable spaces as part of new residential construction, including California, Illinois, Maryland, and cities in Arizona, Colorado, Delaware, Georgia, Hawaii, Missouri, and Washington as well as Vancouver.[5]

[4] https://leviton.com/products/1450r

[5] ICC, "2021 Electric Vehicles and Building Codes: A Strategy for Greenhouse Gas Reduction," published October 2021; see Table 1: Sample EV-Integrated Code Provisions, which lists the jurisdictions that require EV Ready Space(s) for new single-family construction. (https://codes.iccsafe.org/content/ICCEVBCSGGR2021P1/current-approaches-to-ev-integrated-codes).

Meeting market needs

New EV sales in the United States hovered around a quarter million each year from 2016 to 2020, and has since grown to over 1.7 million new vehicles in 2024.[6] EVs are on track to pass 10% of new vehicle sales soon in the United States.[7]

This trend holds true in Minnesota as well, where 73,435 light-duty EVs were registered as of April 2025, up from around 10,000 in 2018.[8] Additionally, about 7%[9] of all new light-duty vehicle sales in Minnesota were electric in 2024, compared to 1.7% of light-duty vehicle sales in 2020.[10] Minnesota also has a stated goal of electrifying 20% of passenger vehicles by 2030.[11]

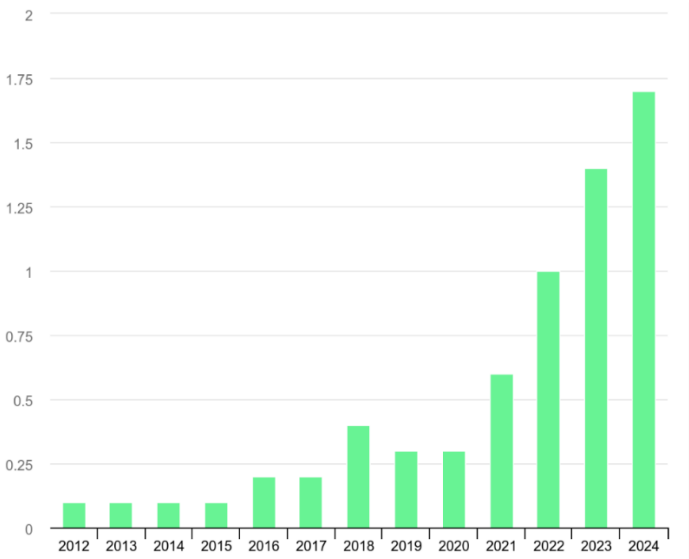

Figure 2: Millions of EV sales in the United States

A 2024 Synapse study funded by the MN Department of Commerce forecasts EVs making up between 10% and 20% of passenger vehicles in Minnesota by 2030.[12] Market growth is expected to continue as EV familiarity increases and governments and utilities offer programming to make EV ownership accessible to more market segments. Options continue to expand: in 2025, there are

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MD Public Safety Code § 12-205 (2024)

Corinne Reichert, "Illinois Right to Charge Law Requires New Homes and Apartments to Support EV Charging," *CNET*, June 22, 2023, https://www.cnet.com/home/illinois-right-to-charge-law-requires-new-homes-and-apartments-to-support-ev-charging/; City of Atlanta, "City of Atlanta Passes 'EV Ready' Ordinance into Law," November 21, 2017, https://www.atlantaga.gov/Home/Components/News/News/10258/1338?backlist=/.

Rachel Sawicki, "New Castle County Amends Codes to Expand Electric Vehicle Charging," *Bay to Bay News*, October 27, 2021, https://baytobaynews.com/stories/new-castle-county-amends-codes-to-expand-electric-vehicle-charging,62104.

[6] IEA, Electric car sales, 2012-2024, IEA, Paris https://www.iea.org/data-and-statistics/charts/electric-car-sales-2012-2024, IEA. Licence: CC BY 4.0
[7] IEA, Electric car registrations and sales share in China, United States and Europe, 2018-2022, IEA, Paris https://www.iea.org/data-and-statistics/charts/electric-car-registrations-and-sales-share-in-china-united-states-and-europe-2018-2022, IEA. Licence: CC BY 4.0
[8] Current registration number from EvaluateMN, via MnDOT Electric Vehicle Dashboard: https://www.dot.state.mn.us/sustainability/electric-vehicle-dashboard.html.
Chart and data from the Minnesota Public Utilities Commission, accessed June 24, 2025, https://mn.gov/puc/activities/economic-analysis/electric-vehicles/
[9] Alliance for Automotive Innovation, "Electric Vehicle Quarterly Report: Q3 2024", at page 8. Through Q3 2024.
[10] Sales number from 2020 retrieved from the Electric Vehicle Dashboard hosted by the Alliance for Automotive Innovation.: https://www.autosinnovate.org/EVDashboard
[11] https://www.lrl.mn.gov/docs/2019/other/190972.pdf
[12] "Charging Minnesota's Electric Vehicles-Strategies That Work for the Electric Grid and Consumers" (Synapse Energy Economies, October 11, 2024), https://mn.gov/commerce-stat/energy/data-reports/CARD%20240939_EV%20Adoption_Final%20Report_ADA.pdf.

over 100 EV models available in the US.[13] EV prices continue to fall over time[14] and total cost of EV ownership can be lower than that of gasoline vehicles even if federal tax incentives which have bolstered the market in recent years go away.[15]

This market share has been driven in part by lower prices and expanded options for EVs. In 2024, the average price for an EV cost only $5,800 more than the average price for a new gasoline-powered passenger vehicle, with options starting as low as $29,280.[16] Additionally, as more EVs have entered the new vehicle marketplace, a robust used EV market is growing, which offers access to EVs at a more affordable price for more consumers.

Minnesota residents seeking to charge their electric vehicle at home will face higher costs if builders and designers ignore the need for charging infrastructure. Providing conduit for easy installation of the circuit prevents costly, invasive retrofit work, reduces the number of trades required for future EVSE installation.

This cost is often unexpected for new EV owners, and spurred Xcel Energy to offer a "home wiring rebate"[17] to help defray the cost in its service territory, while also supporting EVs in its service territories getting onto a time-varying electricity rate that optimizes use of the electric grid, to the benefit of both the EV owner and general grid customers. Level 2 charging enables EV owners to participate in utility pricing programs that offer lower electricity prices at times of the day when load is lowest on the electric grid (typically overnight, when wind power is also most prevalent), thereby optimizing use of the electric grid and renewable energy, while also saving the EV owner money. A Level 2 Charger is typically required to participate in these beneficial utility programs, as well as future developments that would enable EVs to power a home or return energy to the grid (vehicle-to-home and vehicle-to-grid applications, respectively)[18].

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

   This proposal will prepare residents for charging at home as a growing number of Minnesotans opt for electric vehicles. The proposal allows flexibility for builders to provide conduit or to pre-wire for a charger, without requiring the installation of Electric Vehicle Supply Equipment, or the dedication of electrical capacity. This proposal also incorporates feedback from multiple stakeholders during the TAG process.

3. What other factors should the TAG consider?

   EVs also give consumers the option to use local sources of energy, including utility scale renewable electricity, or power from a resident's own household or community solar.

Cost/Benefit Analysis

[13] www.EVInfoList.com
[14] "EVs May Get Cheaper Than Gas Cars As Early As Next Year. Here's Why," InsideEVs, accessed May 13, 2025, https://insideevs.com/news/729153/ev-price-parity-ice-2025-2026/.
[15] Ryan Mills, "Fleet Electric Vehicle Total Cost of Ownership with and without Federal Tax Credits," *RMI* (blog), February 24, 2025, https://rmi.org/fleet-electric-vehicle-total-cost-of-ownership-with-and-without-federal-tax-credits/.
[16] Kelly Blue Book, "How Much Are Electric Cars?" posted January 15, 2025. https://www.kbb.com/car-advice/how-much-electric-car-cost/
[17] Xcel Energy's Home Wiring Rebate program approved by the Department of Commerce November 2024. *See* Decision in CIP-23-92
[18] Digitaltrends, "EV bidirectional charging: what it is and how to get it," published October 11,2024 (https://www.digitaltrends.com/cars/ev-bidirectional-charging-what-is-it-how-to-get)

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

   This code change proposal will nominally increase construction costs, in the range of $200-500 per impacted home. Average costs across all homes will be lower, due to the exemption when electric panels are located in the garage. If 50% of homes under this code have electric panels located in the garage, the average cost across all homes drops to $100-$250.

   Conduit only in Minnesota

   Fresh Energy asked a handful of electricians in Minnesota for estimates on conduit and EVSE installations to corroborate existing research.

   Assuming a run of 50 feet, one estimated conduit-only installation at $180-$240 (plastic tube at $0.60/ft and labor between 6 and 8 dollars per foot).

   Another estimated conduit-only installation at $498 to $623 for 50 feet of flexible metal (conduit at $4.95/ft and 2-3 hours of labor at $125).

   Given inflation, these numbers are not incongruent with 2022 research by NBI and NRDC estimating the incremental cost per EV-Capable space at $115.[19]

   Conduit only (50 feet): $200-$500

   Retrofit without conduit in Minnesota

   Alternatively, retrofitting unprepared homes for Level 2 charging is much costlier. We estimate a retrofit in an existing home in Minnesota averages between $1,500 and $2,000 in electrical work only. Additional trades will add another $500-$1,500, for a conservative average range of $2,000-$3,500.

   Estimates of retrofit EVSE and EV-Ready installations vary widely from $750-$5,000.[20] In Xcel Energy's 2023 Transportation Electrification Plan, they estimated that installing a dedicated 240 V circuit in their Minnesota service territory cost $880 on average, with costs varying by site but reaching a maximum of $5,000 for a single project.[21]

   Our electricians gave estimates in 2025 that fall in similar ranges with Xcel's, if raised a little from inflation seem in line with Xcel's numbers, adjusted for inflation:

   - "We do a fair amount of them running from the basement panel to the garage in an existing home and depending on length of run they usually cost about $1500.00 to $3500.00."

[19] Page 22, "Cost Study of the Building Decarbonization Code," NBI, 2022, https://newbuildings.org/resource/cost-study-of-the-building-decarbonization-code/

[20] "An electric car charging station installation costs $750 to $2,600 for a Level 2 charger, 240-volt outlet, wiring, and wall mounting. Some EV charger installations cost $2,000 to $5,000 for extensive wiring or if the electrical panel needs upgrading." 2023 EV Charging Station Cost | Install Level 2 or Tesla (homeguide.com) updated September 2023
"if you need to mount the system from zero: do the wiring, and install a new service panel and 240 V outlet - add about $1000 - $1500 to your estimate" How Much Does It Cost To Install An EV Charger? (jdpower.com) December 2022

[21] Pg. 52, Xcel Energy, 2023 Integrated Distribution Plan - Appendix H: Transportation Electrification Plan (filed Nov 1, 2023) (link)

- "I can say that avg cost of installing a circuit for a EV charger when the panel is in the basement, $1500.00."
- "For my current customers that have the panel in the finished basement with attached garage I ballpark $1600-$2200."

Without conduit provided, a typical EVSE retrofit project will require additional trades and materials, such as:

- Trenching
- Sod
- Drywall and texturing repair
- Painting, protecting and masking and cleaning of the site

Given that many contractors have minimum charges for showing up no matter how small the job, minor repairs from a retrofit can easily add another $500 to $1,500 to a retrofit cost.

Retrofit without conduit (electrical work only): $1,500-$2,000
Additional trades: $500-$1,500
Total retrofit without conduit: $2,000-$3,500

In our opinion, this is a very conservative range, even in 2025. This part of our estimate has the highest room for upward growth depending on specifics of a given home, with outliers easily exceeding $5,000 and above. Furthermore, since retrofits will take place over time after the date of construction, inflation will also have a larger impact on these costs, and therefore the savings associated with the modest upfront investment.

Retrofit with conduit in Minnesota

Since no current requirement for conduit to parking spots exists, electricians surveyed had little to no experience bidding the exact scenario. However, one shared about an EVSE installation earlier in the week: "We charged $3,100 and had to cut 3 holes in the basement ceiling. If there had been conduit I am sure it would have been 1/2 the cost. And no holes in the finished basement."

Assuming this family spends at least another $500 on repair and materials, their total bill will be $3600. A simple conduit could have kept it at $1,550 in electrical work without added repairs, reducing the project cost by over 50%.

Research on commercial projects suggests EV preparedness reduces final EVSE install costs by 59% to 85%.[22] Some of the costs and savings, like digging up and repairing parking lots, will be less relevant in a residential setting; much of the savings will be similar. Southwest Energy Efficiency Project suggests savings of "75 percent or more compared to installing EV chargers during a building retrofit."[23]

Assuming a conservative range of 50% to 75% savings when retrofitting a home with conduit present, Minnesotans can expect to pay between $500 and $1,750 to install EVSE in a prepared home.

Retrofit with conduit: $500-$1,750

[22] "EV Ready Cost Comparison," *The Solar Foundation,* 2022, EV Ready Cost Comparison_The Solar Foundation_for web.docx
[23] "SWEEP Guide to EV Infrastructure Building Codes - Southwest Energy Efficiency Project," *Southwest Energy Efficiency Project (SWEEP)* (blog), May 11, 2023, https://www.swenergy.org/ev-infrastructure-building-codes/.

Cost/Benefit

Table 3: Cost Estimates for EV Infrastructure in New Construction and Retrofits

Space type	New Construction*	Retrofit to EV Installed
No Building Code Requirements	-	$13,800
EV Capable	$400	$3,500
EV Ready	$1,150	$2,500
EV Installed	$3,650	-

Extensive data confirms that EVSE installation is much more expensive without EV preparedness at the time of construction. A 2025 study (see Table 3) by Atlas Public Policy examined economic impacts of EV enabling infrastructure in multifamily housing, estimating for the United States on average that EV Capable spaces cost $400 but make the biggest future cost impact, saving over $10,000.[24]

Our sample of residential estimates for Minnesota finds that these savings hold true in single-family home contexts:

- $100-$250 for conduit-only installation (given an average range of $200-$500 and 50% compliance through panel location in the garage and no added conduit or labor cost)
    - In a 100 home universe, total impact: $10,000-$25,000
- $2,000-$3,500 retrofit without conduit
- $500-$1,750 retrofit with conduit

Given these estimates, a universe of 100 homes will see net economic benefits once 11 owners install EVSE.

If Minnesota achieves its goal of electrifying 20% of passenger vehicles by 2030, then 20% of residents or more are likely to install EVSE, realizing cost savings of $15,000 per 100 homes.

Code change costs and savings						
	Conduit Install Cost per 100 Homes	Conduit Retrofit Cost	Non-Conduit Retrofit Cost	Retrofit Cost Difference	% EVSE Homes Needed to Break Even	Total Savings per 100 Homes at 20% EVSE Homes
Low	$10,000	$500	$2,000	$1,500	7%	$20,000
High	$25,000	$1,750	$3,500	$1,750	14%	$10,000
Average	$17,500	$1,125	$2,750	$1,625	11%	$15,000

Figure 4: Costs and Savings Associated with Code Change Proposal

Given the growth in EV registration in Minnesota, the Department should not leave residents to pay the substantially higher costs of retrofits when the option to prepare ahead of time is so affordable.

[24] Sharpe, McKenzie, and Filippo, "Cost Savings From Ev- Enabling Building Codes for Multifamily Housing."

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.

   As detailed above, the safest chargers are hard-wired. Without this code change, many more Minnesotans will turn to a NEMA 14-50 outlet that was never intended for 8 or more hours of uninterrupted, high amp load. This setup is a significant fire, shock, and when combined with extension cords, trip hazard. This code change will significantly lower the barrier to installation of safe, hard-wired, purpose built charging equipment.

   Additionally, there are economic benefits to homeowners not represented above: higher energy efficiency of Level 2 charging, and access to utility time of use rates.

   Without dedicated Level 2 EVSE or a 240v dryer outlet, the other most available charging method is "trickle" charging, also known as Level 1: a standard 120v outlet. Not only are these slower, but more wasteful and costly. Level 1 charging can be 5-20% less efficient.[25] Given that EV charging can consume as much power as the rest of the household combined, facilitating efficient Level 2 charging can lead to meaningful savings.

   Level 2 chargers also allow straightforward programming for time of use rates, as well as special EV charging rates, which may be unavailable or impractical with a "dumb" Level 1 charger or makeshift Level 2 dryer plug charging setup.

   In Minnesota Power territory, for example, super-off-peak charging can save consumers about 50%.

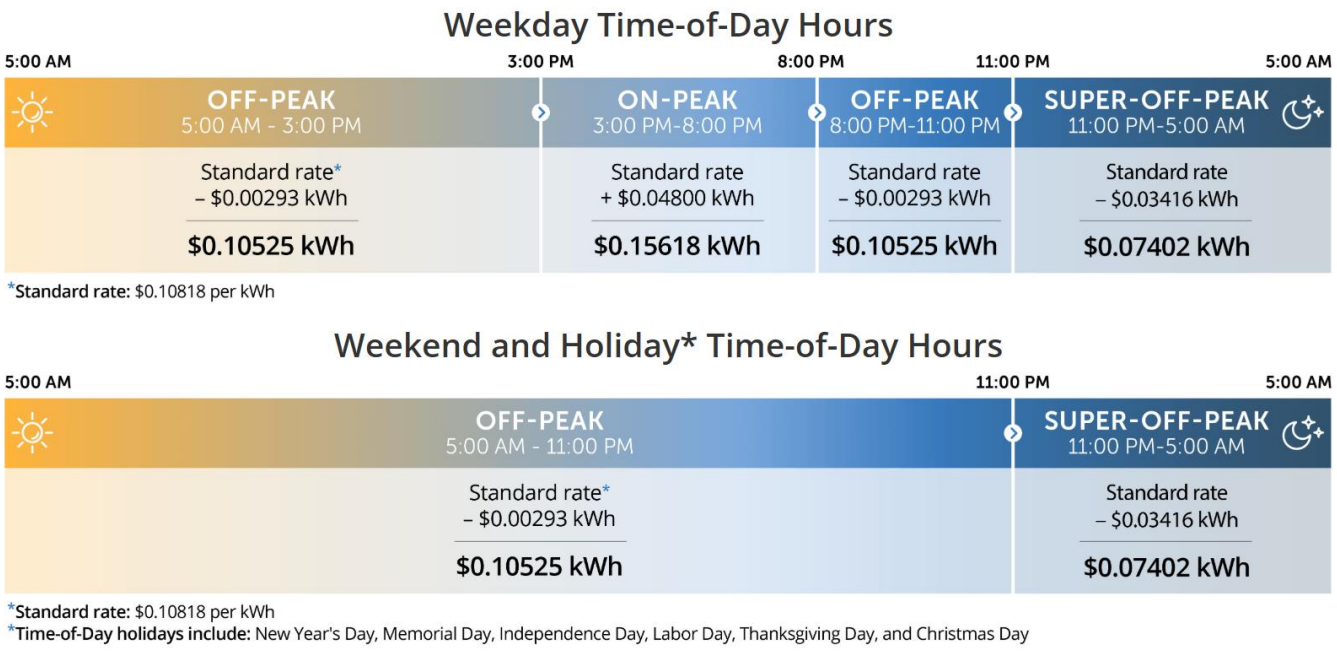


Figure 5: Minnesota Power EV Charging Rate

[25] E. V. Guides, "EV Charging Efficiency – 120V vs. 240V," *EV Guides* (blog), February 6, 2025, https://evguides.net/ev-charging-efficiency-120v-vs-240v/; Justine Sears, David Roberts, and Karen Glitman, "A Comparison of Electric Vehicle Level 1 and Level 2 Charging Efficiency," in *2014 IEEE Conference on Technologies for Sustainability (SusTech)*, 2014, 255–58, https://doi.org/10.1109/SusTech.2014.7046253.

Some utilities offer even steeper discounts. In Xcel territory, residents can save over 80% by charging during off peak hours. This program requires a Level 2 charger.[26]

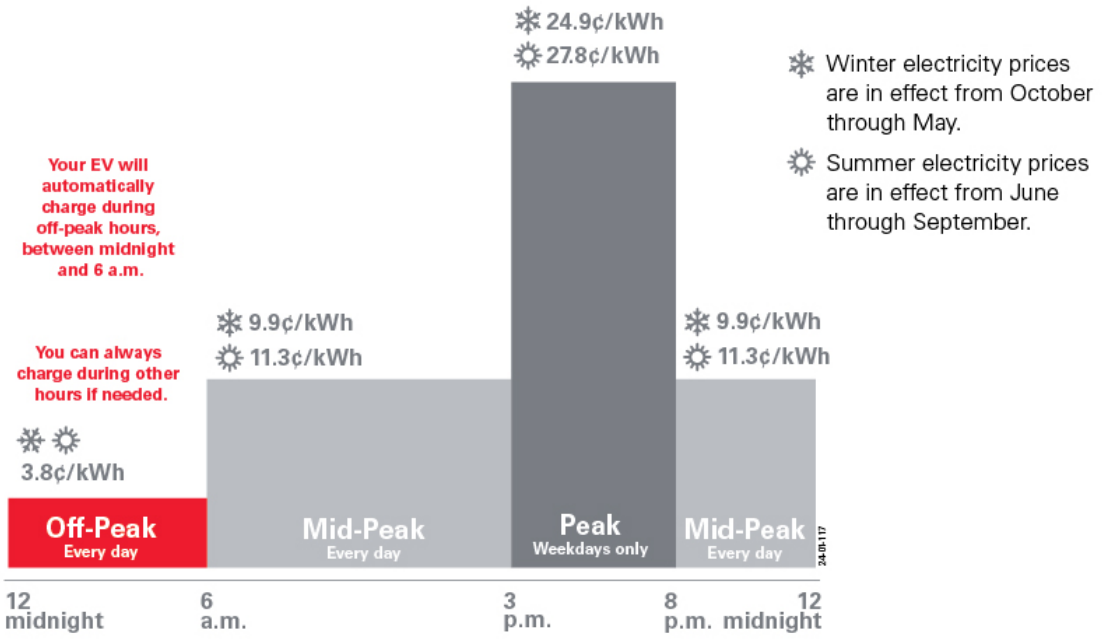


Figure 6: Xcel Energy EV Charging Rate

To learn about rates in any utility territory, the EV consulting organization Shift2Electric maintains a list of Minnesota utility EV charging incentives and special rates at MNCharging.org.

A small investment during new construction will save homeowners substantial future costs, potential shock and fire hazards, and give them more options. Given the market trends identified above, it is not a question of whether Minnesotans will plug in EVs at home, but how safely and affordably they will be able to when they do.

Failing to adopt this proposal would mean saddling future homeowners with substantial, avoidable costs and risks. Instead, the Department should ensure "use of modern methods, devices, materials and techniques" in new residences by adopting this proposal.

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

Cost will be passed to homeowner and will improve safety, and save cost over a retrofit.

[26] "With the EV Accelerate at Home Pay As You Go, you can take advantage of electricity pricing that saves you money on charging. Your Level 2 charger will be set to charge only during off-peak hours, from midnight to 6 a.m. daily. This means your EV will automatically charge during the lowest cost period, but you still have the flexibility to charge at other times if needed.
Local taxes and fees are not included in the monthly prices and will be applied upon billing.
For information on cancellation options and costs, please refer to the FAQ." https://ev.xcelenergy.com/ev-accelerate-at-home

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

   This system can be inspected during normal electrical inspection and will increase the cost of compliance.

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, see cost estimates above.

Regulatory Analysis

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

   This proposed code change would require additional laborer work.

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.

   There is no other clear policy tool to prepare Minnesota homes for EV charging and avoid steep retrofit costs.

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

   This proposal will prevent fires, shock hazards, and save homeowners the costly burden of upgrading their homes to provide electric vehicle charging.

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, although legislation passed in the 2023 Minnesota legislative session requiring the addition of electric vehicle charging to the commercial code.

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

Drive Electric MINNESOTA

November 13, 2025

Dear members of the Construction Codes Advisory Council,

Drive Electric Minnesota is a partnership of Minnesota's electric vehicle (EV) champions, dedicated to encouraging the deployment of EVs and the establishment of EV charging infrastructure through public-private partnerships, financial incentives, education, technical support and public policy. Drive Electric Minnesota and our partners believe EVs are an important component of energy efficiency and cleaner transportation in Minnesota that is both financially and environmentally sustainable.

Whether motivated by sustainability, financial savings, or other factors, more consumers are making the switch to EVs. **Minnesota's EV market has grown tremendously over the past five years, reaching 7% of the new passenger vehicles sales last year with over 100 models available for consumers**. There are now over 78,000 EVs on the road in Minnesota, with two-thirds of those being fully electric (i.e. plug only). These are supported by around 2,700 public charging ports across the state, with more to come through state, federal, and utility funds.

EVs bring many well-documented benefits, from lower operating costs, to back-up power for homes and appliances, to less energy wasted in the motor itself: while internal combustion engines lose a staggering 80% of their energy, EVs only lose about 10%, making them an extremely efficient technology.

EVs also bring a change in how consumers drive and refuel, which requires adaptation in the built environment. Public charging may be rapidly expanding, but the simplest, most economical place to recharge is almost always at home. In fact, about 80% of EV charging happens at home. **As experts, industry participants, and advocates, we know the ability to charge at home easily and quickly is a major factor for new EV buyers.** This will continue to be the case as more Minnesotans make the switch to EVs – a trend that is expected to continue despite temporary federal policy uncertainty.

The EV market is here to stay. **But the decisions we make now will make it easier or harder for Minnesotans who make the switch to an EV in the years to come.** Retrofitting residential homes to support Level 2 charging – a type of faster, higher-power charging that enables many Minnesotans to access cheaper overnight electricity from their utility – is often an unexpected and expensive cost to new EV buyers. Given the significance of these costs as a barrier to at-home charging, limited state and utility funding have been made available to help defray retrofit costs, but those funds are an incomplete solution.

The permanent, most efficient and most affordable solution is installing Level 2 charging at home during new construction.

Installing the conduit and wiring (“EV capable”) or the conduit, dedicated circuit, and junction box/outlet (“EV Ready”) to support Level 2 charging is a preferred approach and well understood by the market. However, installing conduit alone, as provided by the Code Change Proposal before the CCAC, avoids the most expensive part of retrofitting. Requiring *at least* the conduit for Level 2 charging in new residential construction would be a significant step forward in reducing unnecessary costs for EV drivers. This small action upfront will only add a couple of hundred dollars to a new home cost but will save homeowners several thousand dollars down the road.

For these reasons, Drive Electric Minnesota and the undersigned organizations urge the Construction Codes Advisory Council to adopt the requirement to build at least the conduit to support Level 2 charging for EVs in new residential homes as part of the next Residential Construction Code.

The new era of EVs means a new chapter in how our homes interact with our transportation needs. Adopting this code change proposal will help make sure Minnesota stays on top of this transformation and meets consumers where they are.

Sincerely,

Drive Electric Minnesota

Alliance for Transportation Electrification

Connexus Energy

Dakota Electric Association

Fresh Energy

Shift2Electric

SAVE AS

Reset

Boards of Electricity and High Pressure Piping and the Construction Codes Advisory Council Department of Labor and Industry

Board/Council Meeting Open Forum Request

Please keep your presentation to 5 minutes or less.

- Please send this form to lyndy.logan@state.mn.us at **least 1 hour prior to the start of the meeting. Presentations/handouts MUST be sent at least 1 day prior.**
- Availability based on length of meeting and number of requestors.

Name of Board/Council	Date of Meeting	Will you be attending meeting in person or by phone?
Construction Codes Advisory Council	11/14/25	In-person

Name	Street/Mailing Address	Phone Number
Eric Fowler	408 Saint Peter St, Ste 220	651 374 1315

City	State	Zip	Email Address
Saint Paul	MN	55102	fowler@fresh-energy.org

Representing/Company Name
Fresh Energy

Topic:
R333, a code change requiring conduit installation for future electric vehicle charging.

- Send this form and related materials to Lyndy at: lyndy.logan@state.mn.us
- For meeting information, including Open Forum Request forms, please visit the department's Boards and Council web-page at: https://www.dli.mn.gov/about-department/boards-and-councils

Logan, Lyndy (DLI)

From: Curtis Johnson <Curtis.Johnson@PulteGroup.com>
Sent: Thursday, November 13, 2025 4:32 PM
To: Logan, Lyndy (DLI)
Subject: Opposition to Mandatory Electrical Service for EV Charging in Residential Construction

Good afternoon Lyndy,

I am writing to express my concern regarding the proposed amendment to the Minnesota Residential Building Code that would mandate electrical service for electric vehicle (EV) charging in all new homes. As a member of the Residential Technical Advisory Group (TAG) and as Vice President of Construction Operations for a major home builder, I strongly urge you to reject this amendment for the following reasons:

1. Affordability and Housing Accessibility

Minnesota faces a growing housing affordability crisis. Every additional mandate increases construction costs, which directly impacts homebuyers—especially first-time buyers and working families. Installing dedicated electrical infrastructure for EV charging adds thousands of dollars to the cost of a new home, regardless of whether the homeowner owns or plans to own an EV. This requirement disproportionately burdens those who may never use the feature.

2. TAG Recommendations and Due Process

The Residential TAG, after thorough review and multiple votes, recommended against this amendment. Our decision was based on data, stakeholder input, and alignment with Minnesota's housing priorities. Overriding these recommendations undermines the integrity of the code development process and disregards the expertise of industry professionals tasked with balancing safety, sustainability, and affordability. The TAG group also discussed that this code change proposal was out of scope for the Residential TAG and likely belonged with the Electrical TAG.

3. Market-Driven Solutions Are Already Working

Builders and homeowners are responding to EV adoption through voluntary measures. Many builders already offer EV-ready options for those who request them. Mandating this infrastructure for every home is unnecessary and premature, given current EV ownership rates and the rapid evolution of charging technology.

4. Equity and Consumer Choice

This mandate forces all homeowners to pay for a feature that benefits a minority of buyers today. It limits consumer choice and imposes costs on those who may prioritize other investments, such as energy-efficient appliances or insulation upgrades that deliver broader environmental benefits. My Company offered this option to 640 customers the first year it was introduced. Only 3 of those customers selected this option. We have removed it as a standard option for that reason and moved it over to out custom electrical program.

Conclusion

Minnesota's building codes should reflect a balanced approach that promotes innovation without sacrificing affordability. I respectfully urge you to uphold the TAG's recommendation and reject this amendment. Doing so will protect housing affordability, maintain fairness in the code process, and allow market-driven solutions to continue meeting consumer needs.

Thank you for your consideration. I would welcome the opportunity to discuss this further and provide additional data on cost impacts and consumer trends.

Sincerely,
CJ

PULTE GROUP

CURTIS (CJ) JOHNSON
Vice President of
Construction Operations
+512-230-5927
curtis.johnson@pultegroup.com
1650 W. 82nd Street, Suite 300
Bloomington, MN 55431

DEPARTMENT OF LABOR AND INDUSTRY

CODE CHANGE PROPOSAL FORM

(Must be submitted electronically)

Author/requestor: C. Scott Anderson

Email address: c.scott.anderson@minneapolismn.gov

Telephone number: 612-246-7303

Firm/Association affiliation, if any: None

Date: 11/7/25

Model Code: 2024 IRC

Code or Rule Section: Appendix BC

Topic of proposal: Accessory Dwelling Units

Code or rule section to be changed: Appendix BC

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).
Appendix BC

☐ 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.
Appendix BC

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.

   See Attached

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.)

   Currently Accessory Dwelling Units (ADU's) are not addressed in the Minnesota State Building Code. Therefore each jurisdiction determines their own independent rules for these uses. Therefore there is no uniform set of code requirements for ADU's. What is permitted in one jurisdiction is prohibited in another. Further some jurisdictions permit ADU's in such a manner as to create structures that no longer fall within the scope of the Mn Residential Code but yet require compliance with the Mn Residential Code.

2. Why is the proposed code change a reasonable solution?
   It addresses the need for consistency in building code regulations.

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.
   The proposed changes in the text of Appendix will not result in an increase in construction cost. The inclusion of the appendix should also not result in an increase in construction cost. These requirements may be different from what is permitted in various jurisdiction but should not adversely affect construction cost.

2. If there is an increased cost, will this cost be offset by a safety or other benefit? Please explain. If the benefit is quantifiable (for example energy savings), provide an estimate if possible.
   No cost change but even if there is a slight increase the benefit is uniform requirements.

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

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

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

Regulatory Analysis

1. What parties or segments of industry are affected by this proposed code change?
   Architects, Contractors, Developers, Building Owners, Contractors, 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.
   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?
   Not adopting this appendix will result in jurisdictions promulgating their own rules for these uses and maintaining the current situation of inconsistent code rules.

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.

Appendix BC Accessory Dwelling Units (ADU)

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

User notes:

About this appendix: Appendix BC provides for the design and construction of accessory dwelling units (ADUs), an alternative to two- and multiple-family residential construction that promotes increased housing supply and affordability.

Section BC101 General

BC101.1 Scope.

Accessory dwelling units (ADUs) ~~proposed for existing residential construction~~ shall be in accordance with this appendix and other applicable requirements in this code, and the existing building together with the ADUs shall not exceed the scoping limitations of ~~Section R101.2.~~ Chapter1309 .

BC101.1.1 Prohibited conditions.

An ADU shall not be permitted within:

1. ~~Live/work units located in townhouses.~~ IRC-2 Two Family Dwellings and IRC-3 Townhouses. Exception: Detached ADU's
2. Owner-occupied lodging houses with five or fewer guestrooms.
3. A care facility with five or fewer persons receiving custodial care within a dwelling unit.
4. A care facility with five or fewer persons receiving medical care within a dwelling unit.
5. A day care facility with five or fewer persons of any age receiving care within a dwelling unit.

BC101.2 Conditions.

ADUs shall be permitted without requiring a change of occupancy where in compliance with all of the following:

1. An ADU shall be permitted within or attached to an existing detached single-family ~~detached~~ dwelling ~~or within an existing townhouse unit~~ that is within the scope of the International Residential Code.
2. Only one ADU shall be permitted for each primary dwelling unit.
   EXCEPTION: Detached ADU's
3. The owner of a property containing an ADU shall reside in either the primary dwelling unit or the ADU, ~~as of the date of permit approval.~~
   EXCEPTION: Detached ADU's
4. An ADU shall have a separate house number from the primary dwelling unit.
5. ADUs shall be secondary in size ~~and function~~ to the primary dwelling unit and shall comply with all of the following limits:
   5.1. Not less than 190 square feet (17.65 m^2) in area.
   5.2. Not more than 50 percent of the area of the primary dwelling unit.

5.3. Not more than ~~1,200~~ 800 square feet (111 m^2) in area.
EXCEPTION: Detached ADU not more than 1,600 square feet in area

6. An ADU shall be provided with a separate entrance from that serving the primary dwelling unit. The separate entrance may be accessed either from the exterior of the building or from a ~~common hallway~~ shared space located within the building.
7. An ADU shall have a maximum number of two bedrooms.
8. The location of a detached ADU shall comply with Section R302.
9. An ADU shall be provided with adequate provisions for electricity, water supply and sewage disposal.
10. An ADU shall be provided with the following that are independent from the primary dwelling: toilet facilities, bathing facilities. A lavatory, a food preparation area including a sink with hot and cold running water, a dedicated circuit and location for the refrigerator/freezer, and a dedicated circuit and location for a cooktop.

Section BC102 Definitions

BC102.1 Definitions.

The following words and terms shall, for the purposes of this appendix, have the meanings shown herein:

ACCESSORY DWELLING UNIT (ADU). An addition or alteration that is an additional, subordinate dwelling unit on the same lot, and is entirely within a dwelling unit, attached to a dwelling unit or in a detached structure.

Section BC103 Permits

BC103.1 Required.

Any owner or owner's agent who intends to construct an ADU within an existing or proposed building or structure shall first make application to the building official and obtain the required permit.

Section BC104 ADU Planning

BC104.1 Design.

Except as modified by this section, building planning shall be in accordance with Chapter 3 and building structure shall comply with the International Residential Code.

BC104.2 Means of egress.

The path of egress travel from an ADU to a public way or to a yard or court that opens to a public way shall be independent of, and not pass through, the primary dwelling unit.

BC104.3 Fire separation.

For ADUs adjoining the primary dwelling unit, the 1-hour fire-resistance-rated wall and floor assembly provisions of Section R302.3 shall not be required, provided that both of the following conditions have been met:

1. The interconnection of smoke alarms per Section R310.4 activates the smoke alarms in both the primary dwelling unit and the ADU.
2. The interconnection of carbon monoxide alarms per Section R311.5 activates the carbon monoxide alarms in both the primary dwelling unit and the ADU.

BC104.4 Smoke and carbon monoxide alarms.

For ADUs adjoining the primary dwelling unit, the interconnectivity of smoke alarms and carbon monoxide alarms may be independent for the primary dwelling unit and the ADU, provided that a 1-hour fire-resistance rating is provided for walls and floor assemblies in accordance with Section R302.3.

Section BC105 Utilities

BC105.1 Heating, ventilation and air-conditioning systems.

A primary dwelling unit and an ADU shall be provided with:

~~1. A separate heating system.~~
~~2. Separate ducting for heating and cooling systems. Return air openings for heating, ventilation and air-conditioning shall not be taken from another dwelling unit.~~
~~3. Separate climate controls.~~

1. Independent climate control capability. Each dwelling unit shall have its own thermostat independent of any other unit

BC105.2 Electrical systems.

A primary dwelling unit and an ADU shall be provided with:

1. Ready access to the service disconnecting means serving the dwelling unit without affecting any other unit.
2. Ready access for each occupant to all overcurrent devices protecting the conductors supplying the dwelling unit in which they reside.

BC105.3 Gas piping.

A primary dwelling unit and an ADU shall be provided with:

1. Ready access for each occupant to shutoff valves serving the dwelling unit in which they reside without affecting any other unit.
2. Ready access for each occupant to appliance shutoff valves serving appliances in the dwelling unit in which they reside.

BC105.4 Water service.

A primary dwelling unit and an ADU may share a common potable water system, provided that there are separate, accessible main shutoff valves allowing the water to be turned off ~~on one side~~ to one unit without affecting ~~the other~~ any other unit.

HOUSING FIRST MINNESOTA℠

Construction Codes Advisory Council
c/o Minnesota Department of Labor and Industry
443 Lafayette Road
St. Paul, MN 55155

Monday, Nov. 10, 2025

Re: 2024 CODE ADOPTION ***Via Electronic Delivery***

Members of the Construction Codes Advisory Council,

Housing First Minnesota is writing to seek the Council's support of a recommendation that the Commissioner act to keep homeownership affordable in Minnesota with the adoption of the next Residential Energy Code.

By way of background, Housing First represents the housing industry across Minnesota, and our membership includes homebuilders and trade partners who seek to provide affordable homeownership options to Minnesotans. We are driven by our mission of homeownership opportunities for all Minnesotans. Housing First also operates Minnesota's largest energy-efficient new home construction program, Minnesota's Green Path, which, to date, has rated and tested more than 49,000 homes across Minnesota. Our members and their trade partners are experts in housing affordability and efficiency.

Our comments to CCAC highlight:

I. **Market Analysis:** The adverse impact of over-regulating housing construction on Minnesota's affordable housing crisis.
II. **IECC Recommendations and Housing Affordability:** A proposed cost-neutral alternative.
III. **IRC EV Capable Proposal:** Highlights how the proposal should be excluded from the CCAC recommendation.
IV. **Role of Efficiency Rewards vs. Mandates:** Minnesota's nation-leading energy efficiency is driven by incentives, not over-regulation.
V. **Mitchell Provision:** Relevant to the Residential Energy Code adoption in Minnesota is the legislation enacted as a part of 2024 MN Session Laws Chapter 127, HF 5247[1], referred to as the Mitchell Provision.

The letter references the technical review of the 2024 International Energy Conservation Code (IECC) as published by the International Code Council, as the State of Minnesota uses an amended version of the IECC as its residential energy code, and the International Residential Code (IRC) as this document serves as the basis for Minn. Rules Chapter 1309. The IECC technical review was undertaken by the Technical

[1] HF 5247 was an omnibus bill. The original legislation for this provision was SF 4202 (Mitchell) / HF 4242 (Kraft), hearings for which are part of the legislative record.

Advisory Group, and Minnesota-specific amendments in question are hereto referred to as reviewed by the TAG (Code Change Proposals for this TAG were assigned RE numbers).

I. MINNESOTA'S HOUSING RECORD

Minnesota's housing market is the most heavily regulated in the Upper Midwest, and the impact has depressed housing construction in Minnesota.

- Minnesota is **98,000 homes short** of a stabilized housing market, with nearly **75,000 of these missing homes** needed in the Twin Cities region.[2] The state's housing deficit has **DOUBLED** since 2018.[3]
- The state's housing deficit now represents **4½ years of construction activity**.[4]
- With a median price of $555,000, **Minnesota is the most expensive state in the region** for new homes.[5]
- **Housing construction is plummeting** as permits have fallen 35% in Minnesota and 43% in the Twin Cities (2021-24).[6]
- **Housing affordability is at an all-time low**, according to national experts.[7]

Just last week, the *Minnesota Star Tribune* highlighted how Minnesotans must earn a household income of more than $100,000, well above the state's median household income, to enter homeownership.[8] By every objective measure, **now is the time to reduce housing costs, not raise them**. Unfortunately, the Technical Advisory Groups' (TAG) recommendations increase costs substantially and without a rational basis.

Specific to affordability, this has been the North Star to the State Building Code for five decades. In its *Guide to the State Building Code* dated March 2020, the Department of Labor and Industry highlights two critical elements within its statutory charge:

> "Provide for the use of modern methods, devices, materials and techniques which will **in part tend to lower construction costs** – encourage and recognize innovation and technologies that provide cost savings in labor, equipment, and building materials
>
> The construction of buildings should be **permitted at the least possible cost consistent with recognized standards of health and safety** – manage adoption of nationally recognized safety and health codes to keep construction costs as low as possible."
> (Page 7, Emphasis Added)

II. IECC RECOMMENDATION: ADOPTION OF 2024 IECC WITHOUT INCREASING EFFICIENCY

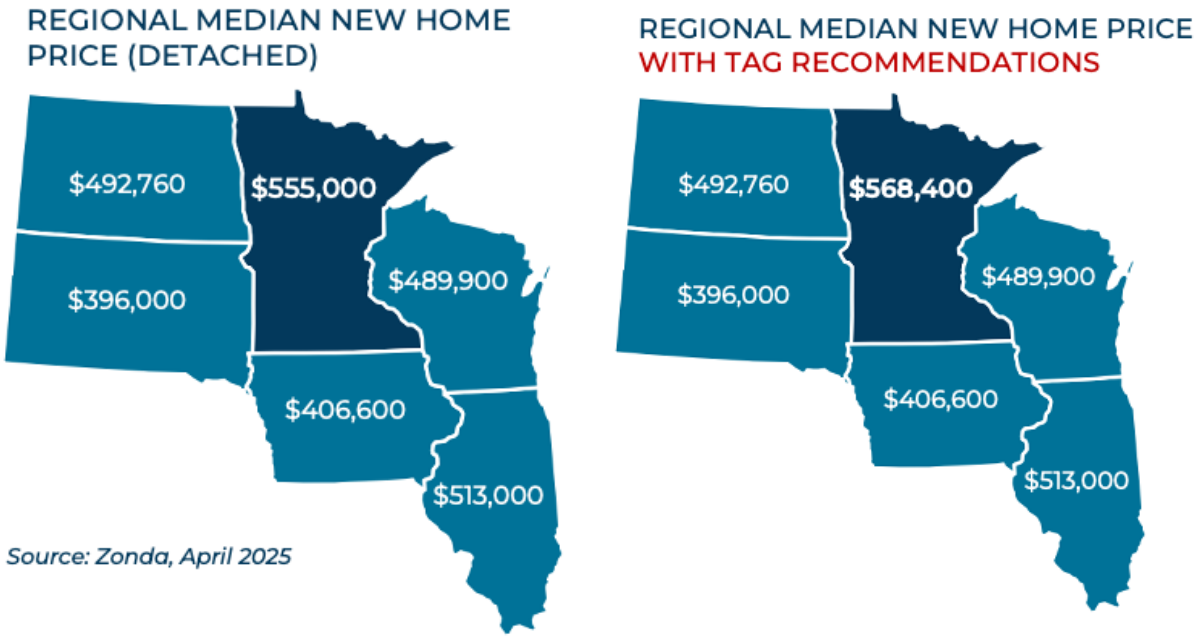
[2] Up for Growth, Housing Underproduction in the United States https://upforgrowth.org/apply-the-vision/housing-underproduction-reports/
[3] Figure based on 2018 State Task Force Report, Aug. 2018. https://mn.gov/gov-stat/pdf/Housing%20Task%20Force%20Report_FINAL.pdf
[4] Calculation: Up for Growth Estimate and Census Building Permit Survey. BPS available at https://www.census.gov/construction/bps/xls/stateannual_202499.xls
[5] Zonda, Median New Single-Family Detached Closing Price. April 2025.
[6] U.S. Census Bureau. https://www.census.gov/construction/bps/xls/stateannual_202499.xls
[7] Realtor.com "Home Affordability Is 'Historically Low,' Says JPMorganChase." June 2025. https://www.realtor.com/news/trends/housing-affordability-report-jpmorganchase/
[8] *Minnesota Star Tribue*. "In Minnesota, it now takes a six-figure income to buy a home". Nov. 3, 2025. https://www.startribune.com/most-minnesota-needs-earn-income-six-figures-100k-own-house-middle-class-afford-market/601476873

With a median Home Energy Rating System (HERS) in Minnesota of 47 in 2024, most new homes already exceed the state's 16% targeted increase in efficiency this code cycle. Under Housing First's recommendations that exclude the costly mandates of the proposed amendments to the Residential Energy Code, there would only be a minimal cost increase for new housing in Minnesota while complying with the requirements of the Mitchell Provision.

As the IECC TAG neared the completion of its work, Housing First Minnesota undertook a cost analysis to calculate the cost to consumers if the Commissioner and CCAC choose to adopt the TAG's recommendations. An initial cost analysis proved that TAG's IECC recommendations will increase housing costs as set forth below:

- **Townhome:** More than **$7,700** (At least **18,000 families priced out** by TAG recommendations).[9]
- **Slab-on-Grade Single-Level Home:** More than **$10,000** (At least **23,330 families priced out** by TAG recommendations). [6]
- **Two-Story Home with Basement:** More than **$13,400** (At least **31,000 families priced out** TAG recommendations). [6]

FIGURE 1: MIDWEST MEDIAN NEW HOME PRICE



Adoption of the full slate of IECC TAG recommendations would be the first significant cost increase from the Commissioner of the Department of Labor and Industry in more than 10 years. And because it impacts **ALL NEW HOMES**, it surpasses the impact of the now-invalidated sprinkler mandate.

To avoid any significant cost increase, the Department need only to adopt the 2024 International Energy Conservation Code (IECC) with the current IECC efficiency targets. To accomplish this, Housing First proposes that the following Code Change Proposals (CCPs) be rejected:

[9] Calculation: Based on NAHB Priced-Out Estimates for 2025 https://www.nahb.org/-/media/NAHB/news-and-economics/docs/housing-economics-plus/special-studies/2025/special-study-households-priced-out-of-the-housing-market-march-2025.pdf?rev=557833ecb28e410c983deb86813645a8

RE-39 **RE-40** **R-41.1** **R43.1** **RE-45** **RE-50** **RE-52**

Housing First's recommendation is the most cost-effective path forward, as most new-home buyers in Minnesota would see a minor cost increase, tied only to the legislatively mandated adoption. Our recommendation also allows the state to make significant progress toward the long-term goals of the Mitchell Provision. While the recommendation from DLI staff includes not adopting four of these CCPs, **a recommendation for which Housing First Minnesota and its members are thankful**, it is important to note that three of the above-mentioned CCPs have been included.

V. IRC EV CAPABLE AMENDMENT

The Department of Labor of Industry has broken with protocol and allowed a special interest group to submit a code change proposal to CCAC despite ample time for Fresh Energy to resubmit the proposal to the TAG. According to the TAG's records, similar proposals were rejected on May 20, 2025, and July 15, 2025. Mr. Fowler had ample time to prepare and submit a revised CCP before the final TAG meeting but did not do so.

His proposal asks a simple question: ***In the middle of a growing housing crisis, should Minnesota mandate a luxury upgrade that consumers often choose not to include, when any cost savings are based on potential future consumer-driven choices that may or may not happen?***

The proposal's stated need highlights how this proposal was supported in the 2021 IECC review. The Department has since determined that this is **out of scope of the IECC** as the IECC cannot increase energy consumption on the site of a home, which this CCP does.

The proposal's stated reasonableness is predicated on cost savings in future years paid for today, meaning it **lacks an *essential nexus***. Those who pay for the cost increase are not necessarily the benefiting party.

Need and **reasonableness** are the cornerstone of Minnesota's rulemaking requirements. Amending the model codes to include costly mandates is, rightfully, a high bar. Section V of this letter highlights the specifics of these requirements in depth.

According to Housing First Minnesota's members, those building at the more affordable price points reported in 2023 that their EV charger upgrade rates were between 0-3%. Builders within the middle market reported a rate of no higher than 10% of buyers choosing an EV. The only part of the housing market that sees high adoption is the luxury home market, meaning the consumers who are least price sensitive.

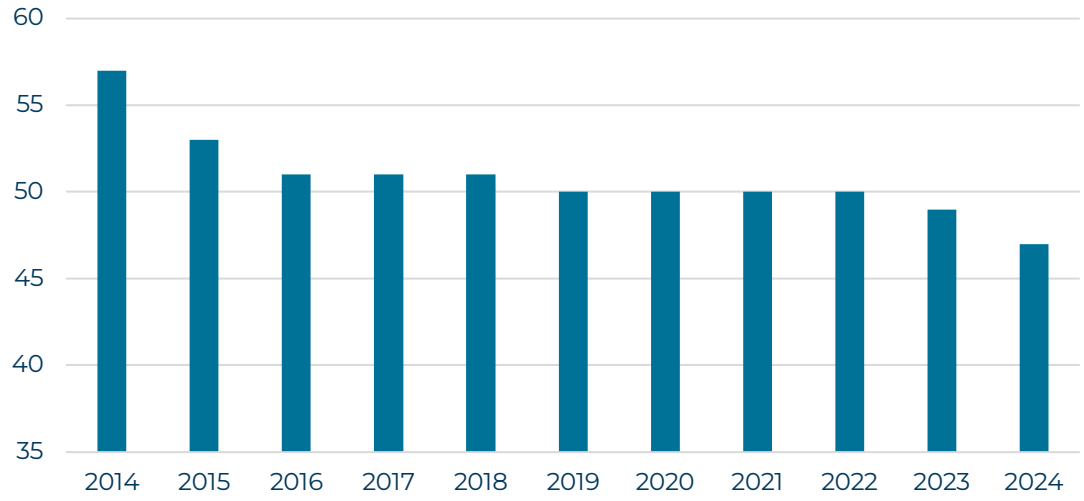
IV. EFFICIENCY INCENTIVES VS. MANDATES

With a median HERS of **47** and more than 8,800 homes rated in 2024, Minnesota is **THE MOST EFFICIENT NEW HOME CONSTRUCTION STATE** in the United States.[10] This record-setting efficiency was achieved under the 2012 IECC with Minnesota Amendments. When former Commissioner Peterson wisely decided not to open rulemaking in 2018, efficiency groups claimed that Minnesota would "fall behind"

[10] Resnet, 2024 HERS® Activity by State. https://www.resnet.us/wp-content/uploads/2024-HERS-Activity-by-State.pdf

without adoption of the new code, claims repeated with groups pressing for the enactment of the Mitchell Provision. These claims were unfounded, and the truth was the opposite. Data proves that despite not adopting a new energy code, homes in Minnesota grew MORE efficient and Minnesota maintained its nation-leading status for more than the past five years.

FIGURE 2: MINNESOTA ENERGY EFFICIENCY OVER TIME (AVG. HERS)[11]



It should be noted that a 2006 reference home has a HERS of 100 and the average HERS for a pre-2006 reference home is 130. This less efficient housing also makes up the greatest share of our state's housing inventory. The state's new proposed approach to energy efficiency via the Mitchell Provision penalizes new construction while ignoring both the most inefficient homes and the largest stock of housing.

The success of our efficiency record is tied to the role the incentive programs play in our housing regulatory system. These programs reward and incentivize energy efficiency construction only when builders for beyond code. A stable code has allowed builders, trade partners, and building code officials to become more comfortable with increasing efficiency in a variety of ways without increasing construction costs. Both of these would be lost without taking Housing First Minnesota's recommendation on the IECC.

The flexibility of the code also has allowed Minnesota to grow into an innovation hub for energy efficiency. Minnesota-based companies are building their businesses here because our unique climate and an innovation-supporting regulatory framework provide them flexibility to build beyond code. We are also the Silicon Valley of windows, and flexible options in Minnesota allow our local firms to continue to be innovative in their backyards.

V. MITCHELL PROVISION

As noted, the adoption of the 2024 IECC falls just before the state will implement the Mitchell Provision, which, according to DLI's presentation to CCAC on Nov. 12, 2024[12], does not impact this code adoption. The Mitchell Provision states:

[11] Source: RESNET HERS Activity By State. 2014-24.
[12] Construction Codes Advisory Council PowerPoint. Nov. 21, 2024, Meeting. https://www.dli.mn.gov/sites/default/files/pdf/ccac_112124_presentation.pdf

> Beginning in 2026, the commissioner shall act on the new model residential energy code by adopting each new published edition of the International Energy Conservation Code or a more efficient standard. The residential energy code in effect in 2038 and thereafter must achieve a 70 percent reduction in annual net energy consumption or greater, using the 2006 International Energy Conservation Code State Level Residential Codes Energy Use Index for Minnesota, as published by the United States Department of Energy's Building Energy Codes Program, as a baseline. The commissioner shall adopt residential energy codes from 2026 to 2038 that ***incrementally move toward achieving the 70 percent reduction in annual net energy consumption***. By January 15 of the year following each new code adoption, the commissioner shall submit a report on progress under this section to the legislative committees with jurisdiction over the energy code.
> (2024 MN Session Laws Chapter 127, HF 5247, (emphasis added)

Notably, the Legislature did not exempt the Commissioner from the statutorily mandated rulemaking requirements, nor the penalties under Minn. Stat. § 14.69, which provides (emphasis added):

> "the court may affirm the decision of the agency or remand the case for further proceedings; or it ***may reverse or modify the decision*** if the substantial rights of the petitioners may have been prejudiced because the administrative finding, inferences, conclusion, or decisions are:
>
> (a) in violation of constitutional provisions; or
> (b) ***in excess of the statutory authority or jurisdiction of the agency***; or
> (c) made upon unlawful procedure; or
> (d) affected by other error of law; or
> (e) ***unsupported by substantial evidence in view of the entire record as submitted***; or
> (f) ***arbitrary or capricious***."

In the past decade, the Department has seen two notable examples of this from the Minnesota Court of Appeals, invalidating actions of the Department under this statute. In *BATC v. DLI,* the so-called sprinkler mandate was tossed out as the Court found the Department's rationale for the mandate was "arbitrary and not supported by substantial evidence in the record." [13] More recently, in an October 2025 nonprecedential decision, the Minnesota Court of Appeals said the Department was found to have been enforcing an unpromulgated rule.[14] In both instances, the provisions were found to be unenforceable and invalidated under Minnesota's Administrative Procedure Act.

While the state must move to a 70% increase in efficiency by 2038 and adopt each new publication of the IECC beginning with any version published after 2026, it may not do so in an arbitrary and capricious manner. The state may not adopt a rule that violates Minnesota's constitution, exceeds statutory authority, or fails to comply with rulemaking procedures. Any Minnesota amendments must be supported by substantial evidence. Further, the Mitchell Provision explicitly says "***net energy consumption***," not each provision, must move in an "***incremental***" manner. It does not state that each provision must also become more efficient in an "incremental" manner.

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[13] *BATC v. DLI*, 872 N.W.2d 263 (Minn. App. 2015)
[14] *In the Matter of the Petition of Todd Geske to Cease Enforcement of an Unadopted Rule Pursuant to Minn. Stat. § 14.381,* A25-0214, 2025 WL 2965031 (Minn. Ct. App. Oct. 20, 2025).

Finally, with the Mitchell Provision, the Department of Labor and Industry broke with its longstanding view that the State Legislature should stay out of the technical code development process when it did not advocate against this provision as it has done with affordability-centric and consumer protection bills in the past. Housing First Minnesota believes that the agency should work to reform or repeal the Mitchell Provision to ensure affordability shocks, like the IECC TAG proposed, are not merely pushed off into the future.

CONCLUSION

Adoption of the EV Charger proposal, given its suspect rationale and disregard for the TAG's recommendation, would be a step backward for Minnesota.

Implementation of the 2024 IECC will be a significant change for homebuilders, their trade partners, and code officials. The effectiveness of a code requires all parties to understand what the code says and how it should be implemented in the field. We applaud the Department for the recommendation that the four CCPs noted (RE-39, RE-41.1, RE-43.1, and RE-50) not be adopted. But this will only delay, not prevent, larger cost increases in the future.

New housing construction is already plummeting, and any further reductions in demand place jobs at risk, and stress already depressed housing inventory levels. The Department should now focus on its stated position of keeping the legislature out of the code and work with the industry to repeal the Mitchell Provision.

Respectfully submitted,

Nick Erickson
Sr. Director of Housing Policy
Housing First Minnesota

CC:
Commissioner Nicole Blissenbach
Sen. Jen McKewan, Chair, Senate Labor Committee
Sen. Gene Dornick, Ranking Member, Senate Labor Committee
Rep. Dave Baker, Co-Chair, House Workforce, Labor, and Economic Development Finance and Policy Committee
Rep. Dave Pinto, Co-Chair, House Workforce, Labor, and Economic Development Finance and Policy Committee

Builders Association of Minnesota

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grace@bamn.org, (612) 501-3071

November 10, 2025

Via Email: lyndy.logan@state.mn.us

Minnesota Construction Codes Advisory Council

C/O Lyndy Logan Department of Labor and Industry (DLI)

Subject: Comments on the 2024 IECC Residential Energy Code TAG Report and Protecting Housing Affordability

Dear Members of the Construction Codes Advisory Council (CCAC),

Builder Association of Minnesota is submitting these comments to express significant concerns regarding the impact of the Residential Energy Code TAG Report recommendations on **housing affordability** in Minnesota. As an organization who represents residential home building industry, I urge you to prioritize common-sense, cost-effective building standards that do not exacerbate our state's current housing crisis.

The Imperative to Protect Affordability

The TAG Report, while well-intentioned, proposes amendments that would lead to a **significant and unwarranted increase in construction costs**. Minnesota is currently grappling with a severe housing shortage, and adding substantial regulatory costs to new construction directly counteracts efforts to make homes attainable for more families. **There is simply no rational basis to increase costs by this magnitude** through regulation, especially when those costs often outweigh the marginal energy savings.

We strongly advocate that the Department of Labor and Industry (DLI) **uphold its long-held belief that the Legislature should not intervene in the Building Codes.**

Minnesota Already Leads in Energy Efficiency

It is crucial to recognize that **Minnesota is already the most energy-efficient new home construction state in the nation**, boasting a median HERS score of 47. This leadership was achieved not through aggressive mandates and punitive regulation, but through **effective incentives and voluntary compliance**. We can maintain our status as a clean energy leader without creating insurmountable cost barriers for residents.

Recognizing Progress, Addressing Remaining Concerns

We wish to **thank the Department of Labor and Industry for dismissing the four most problematic IECC Amendments** which would have significantly impacted housing costs. This action represents a clear win for affordability. However, Minnesotans need to know that **more significant cost increases will inevitably come without the repeal of the Mitchell Provision**.

While we appreciate the Department's willingness to dismiss the most cost-prohibitive items, **several proposed amendments remain problematic**. We urge the CCAC to discard the following specific amendments, as they impose excessive cost burdens relative to their benefit:

- RE-39
- RE-40
- R-41.1
- R-43.3
- RE-45
- RE-50
- RE-52

Additionally, we must reiterate a point wisely dismissed by the IRC TAG: the **mandate for EV-Capable infrastructure is unnecessary**. This is a **luxury upgrade** that should be driven by consumer choice, not regulatory fiat. Mandating this feature adds costs without providing universal benefit to all homebuyers.

We ask the CCAC to reject amendments that needlessly increase the cost of housing. We must prioritize affordability while continuing to foster the energy efficiency leadership for which Minnesota is already recognized.

In conclusion, **CCAC must champion immediate action to strengthen statewide code compliance and enforcement.** Minnesota families are entitled to live in safe, secure homes that meet every standard and have been properly inspected. Allowing non-enforcement to persist is creating a perilous 'building code desert' that compromises structural integrity and safety. We urge CCAC to act now, as continued inconsistency effectively nullifies the code and puts our communities at risk.

Thank you for your time and thoughtful consideration of these critical issues.

Sincerely,

Grace Keliher

Executive Vice President Builders Association of Minnesota

CC:

- Commissioner Nicole Blissenbach (dli.communications@state.mn.us)
- Sen. Jen McEwen, Chair, Senate Labor Committee (sen.jennifer.mcewen@mnsenate.gov)
- Sen. Gene Dornick, Ranking Member, Senate Labor Committee (sen.gene.dornink@mnsenate.gov)
- Rep. Dave Baker, Co-Chair, House Workforce, Labor, and Economic Development Finance and Policy Committee (rep.dave.baker@house.mn.gov)
- Rep. Dave Pinto, Co-Chair, House Workforce, Labor, and Economic Development Finance and Policy Committee (rep.dave.pinto@house.mn.gov)

Minnesota Realtors®
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November 10, 2025

Minnesota Construction Codes Advisory Council:

As you consider the Residential Energy Code TAG Report, Minnesota Realtors® requests that you please not take any actions which would significantly increase the cost of housing.

Minnesota Realtors® (MNR) is a business trade association representing over 21,500 real estate professionals statewide. Our members help build a more prosperous real estate industry and higher quality of life for everyone who calls Minnesota home.

As home prices continue to rise for both new and existing homes, our members see first-hand the affordability challenges buyers are facing.

Data demonstrates clearly that housing supply and affordability are a growing challenge for Minnesota homebuyers, particularly first-time and first-generation buyers. Key housing market data that illustrates this challenge include:

- The median statewide sales price year-to-date for existing homes was $358,000 in September, with the Twin Cities reaching $395,490 (*Source: MNR Local Market Update-September 2025*).

- The Housing Affordability Index year-to-date is ninety-three, which means the median household income is only 93% of what is necessary to qualify for the median-priced home under prevailing interest rates (*Source: MNR Local Market Update-September 2025)*.

- The Monthly PITI (Principal-Interest-Taxes-Insurance) payment on a median priced home in Minnesota is $2,642. In 2021, it was $1,622—an over $1,000 increase in just four years (*Source: David Arbit, MNR Research Director*).

The growing cost of homeownership is a significant barrier to entry for aspiring first-time homebuyers. According to the National Association of Realtors®' (NAR) 2025 Profile of Home Buyers and Sellers, the median age for first-time buyers is now 40 years, which is an all-time high. In addition, the share of first-time buyers hit a record low of 21%.

Minnesota Realtors® recognizes the value in examining approaches that incorporate sustainability and energy efficiency measures, which promote healthy and resilient communities for future generations.

However, we also think it is essential that any policies under consideration, including the Residential Energy Code TAG Report, are scrutinized for how they address the supply and affordability of housing because continuing to take actions that increase the cost of housing is not sustainable.

It is our understanding that adoption of the Residential Energy Code TAG Report would result in additional cost increases on new construction that would further exacerbate the affordability barrier to homeownership that already exists for far too many Minnesotans. We ask that you please proceed with caution and avoid taking any actions which would further increase the cost of housing.

Thank you again for the opportunity to share our concerns.

Sincerely,

Paul Eger
Senior Vice President of Governmental Affairs
Minnesota Realtors®

CC: Commissioner Nicole Blissenbach (dli.communications@state.mn.us)
Sen. Jen McEwan, Chair, Senate Labor Committee (sen.jennifer.mcewen@mnsenate.gov)
Sen. Gene Dornick, Ranking Member, Senate Labor Committee (sen.gene.dornink@mnsenate.gov)
Rep. Dave Baker, Co-Chair, House Workforce, Labor, and Economic Development Finance and Policy Committee (rep.dave.baker@house.mn.gov)
Rep. Dave Pinto, Co-Chair, House Workforce, Labor, and Economic Development Finance and Policy Committee (rep.dave.pinto@house.mn.gov)

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November 11, 2025 **SENT VIA EMAIL**

Minnesota Construction Codes Advisory Council
C/O Lyndy Logan, lyndy.logan@state.mn.us

Since 1953, the Rochester Area Builders have promoted residential and commercial construction in Rochester and the surrounding area. On behalf of our nearly 400 members, we encourage you to refrain from further changes to the Building Code, especially those uniquely designed to ensure fewer Minnesotans will be able to afford a home.

After 10 years of documented underperformance, Rochester has begun a significant boom in residential housing, reestablishing a healthy market for people at all economic strata. There are two main propellants of this boom: Mayo Clinic's unprecedented investment of $5 billion, and the entrance of the Minnesota's (and the nation's) top three production home builders into the Rochester market.

We are about to significantly increase inventory and therefore lower the cost of housing for tens of thousands of nurses, public safety personnel, and restaurant and hotel staff. Your proposed changes will drastically increase the price of housing, pulling homeownership away from thousands of people in Rochester alone.

While there are many questionable elements, the most damaging amendments are RE-39, RE-40, R-41.1, R-43, RE-45, RE-50, and RE-52. Our organization is thankful the Department recommended removal of several of these questionable proposals. We believe these, along with the EV Capable CCP on the Residential Code, should be withdrawn.

Thank you for considering our comments. Please take the action that will enable our members to keep building and help solve Minnesota's housing crisis.

The professionals and experts are telling you: these amendments and the Mitchell Provision will hurt Minnesotans and price out prospective homebuyers. It is already too hard to buy a home in Minnesota. Please don't make it worse.

Sincerely,

Patrick Sexton
Executive Director

CC: Commissioner Nicole Blissenbach; Sen. Jen McEwen; Sen. Gene Dornick; Rep. Dave Baker; Rep. Dave Pinto

BUILDING INDUSTRY ASSOCIATION
RED RIVER VALLEY

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buildrrv.org
Formerly
Home Builders Association
of Fargo-Moorhead

Nov. 12, 2025

Minnesota Construction Codes Advisory Council

Re: Residential Energy Code

Dear Minnesota Construction Codes Advisory Council Members,

On behalf of the Building Industry Association of the Red River Valley (formerly Home Builders Association of Fargo-Moorhead) and the approximately 700 member companies we serve, I want to express our sincere appreciation for the Department of Labor and Industry's efforts in addressing and removing some of the most costly amendments to the 2024 Residential Energy Code.

However, we respectfully urge the Department to repeal the Mitchell Provision, which poses a threat to housing affordability in Minnesota. With a plethora of cost drivers already straining the market, this provision adds unnecessary pressure at a time when affordability is more critical than ever.

As a border community, we witness firsthand how regulations impact competitiveness. The Mitchell Provision mandates adopting new energy codes every three years, disrupting Minnesota's established six-year code cycle. It also requires a 70% improvement in residential energy efficiency by 2038 (based on a 2006 reference home), regardless of cost or alignment with IECC standards. Meanwhile, neighboring North Dakota across the river has no mandatory statewide energy code. When meeting with officials in Moorhead, Minnesota, a common topic of discussion is how to increase building activity, which lags behind Fargo, West Fargo and Horace. Provisions like this are examples of factors negatively influencing the desire to build.

According to the National Association of Home Builders (NAHB), every $1,000 increase in the median price of a new home in Minnesota ($442,900) results in 2,333 households being priced out of the market. In our region, where the median home price is $403,156, that translates to 126 families losing access to homeownership.

The impact of rising costs, particularly as it relates to building codes, is substantial. A 2021 NAHB study found that changes to building codes over the past decade have added approximately $24,144 to the cost of constructing a single-family home in the United States. These increases make the goal of homeownership even more unattainable for Minnesotans.

Given that Minnesota already ranks as one of the most energy-efficient states for new home construction, with a median HERS score of 47, further regulatory burdens are unnecessary. Current successes have been driven by incentives, not mandates, and we believe that approach should continue.

While we appreciate the progress made in removing some of the costliest amendments, several concerns remain, including RE-39, RE-40, R-41.1, R-43.3, RE-45, RE-50 and RE-52.

We also commend the Technical Advisory Group's decision to dismiss the EV charger mandate. This decision is best left to market demand and individual choice, rather than required through a mandate.

Thank you again for your consideration and the opportunity to provide comment. Please reach out if you have any questions or concerns.

Sincerely,

Bryce Johnson
Chief Executive Officer

Adam Olson
President

CC:

Commissioner Nicole Blissenbach
Sen. Jen McEwen, Chair, Senate Labor Committee
Sen. Gene Dornick, Ranking Member, Senate Labor Committee
Rep. Dave Baker, Co-Chair, House Workforce, Labor, and Economic Development Finance and Policy Committee
Rep. Dave Pinto, Co-Chair, House Workforce, Labor, and Economic Development Finance and Policy Committee

WINDOW & DOOR MANUFACTURERS ASSOCIATION

November 12, 2025

Greg Metz, Chairman
Minnesota Construction Codes Advisory Council
Department of Labor and Industry
443 Lafayette Road N.
St. Paul, MN 5515

WDMA Comments to the Proposed Minnesota Residential Energy Code

Dear Chairman Metz and Members of the Council,

The Window and Door Manufacturers Association (WDMA) appreciates the opportunity to provide comments on the proposed update to the Minnesota Residential Energy Code. WDMA is a national trade association representing the country's leading manufacturers of windows, doors, and skylights, many of whom are based in Minnesota. Our members serve a wide range of stakeholders, including distributors, dealers, builders, remodelers, homeowners, architects, and contractors in the residential and commercial construction sectors. WDMA actively participates in the development of consensus-based national model codes and standards and maintains representation on the residential committee responsible for the International Energy Conservation Code (IECC).

WDMA is committed to energy efficiency, sustainability, and responsible environmental stewardship—values that are central to our mission. We recognize that energy use in buildings places a financial burden on homeowners and renters throughout Minnesota. However, housing affordability is also a significant concern that must be balanced when updating building codes.

WDMA supports the adoption of the unamended 2024 IECC, and we are concerned that the recommended amendments under consideration will introduce unnecessary complexity, inconsistency, and cost burdens. The code change proposals (CCPs) recommended by the Residential Energy Code Technical Advisory Group (TAG) would, in our view, create several practical and regulatory problems, including:

- Inconsistencies with national model code language
- Internal conflicts within the energy code
- Updates to REScheck needed by PNNL for Minnesota use
- Customized training materials unique to Minnesota amendments
- Negative impacts on housing affordability and energy policy goals
- Reduced flexibility through the elimination of the performance path
- Increased compliance costs due to required RESNET raters for the ERI path

After careful review, we find no compelling reason to amend the 2024 IECC and respectfully recommend that the Council adopt the model residential energy code without modification. This approach will ensure Minnesota's energy code remains cost-effective, consistent with national standards, and aligned with broader energy efficiency goals.

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WINDOW & DOOR MANUFACTURERS ASSOCIATION

The Pacific Northwest National Laboratory research sponsored by DOE indicates that moving from the 2012 IECC to the unamended 2024 IECC will yield significant energy cost savings:

- Approximately 12% in Climate Zone 6
- Approximately 20% in Climate Zone 7

These improvements represent meaningful, cost-effective gains in energy performance and can be achieved without the proposed amendments that could complicate compliance and enforcement.

We understand that the Council must consider long-term energy efficiency targets established by the Legislature—commonly referred to as the Mitchell Provision—while also upholding statutory directives under Minnesota Statutes, Section 326B.07, which call for reducing inconsistencies, streamlining construction procedures, and improving coordination among jurisdictions.

Unfortunately, several of the proposed CCPs introduce new and confusing language inconsistent with both the 2024 IECC and the legislative objectives of code clarity and uniformity. Specifically, we are concerned about the following proposals recommended by the TAG:
RE-39, RE-40, RE-41.1, RE-43.3, RE-45, RE-50, and RE-52.

WDMA supports Minnesota's continued effort to adopt modern, energy-efficient building codes. However, to ensure consistency, enforceability, and cost-effectiveness, we urge the Council to:

- **Reject the above-listed amendments; and**
- **Adopt the unamended 2024 IECC as the Minnesota Residential Energy Code.**

This will deliver measurable energy savings, uphold housing affordability, and maintain alignment with the state's long-term sustainability objectives.

If you have any questions or concerns about WDMA's comments, please don't hesitate to contact me at **CDrumheller@wdma.com**.

Sincerely,

Craig Drumheller
WDMA Vice President of Technical Activities

CC:
Commissioner Nicole Blissenbach (dli.communications@state.mn.us)
Sen. Jen McEwen, Chair, Senate Labor Committee (sen.jennifer.mcewen@mnsenate.gov)
Sen. Gene Dornick, Ranking Member, Senate Labor Committee (sen.gene.dornink@mnsenate.gov)
Rep. Dave Baker, Co-Chair, House Workforce, Labor, and Economic Development Finance and Policy Committee (rep.dave.baker@house.mn.gov)
Rep. Dave Pinto, Co-Chair, House Workforce, Labor, and Economic Development Finance and Policy Committee (rep.dave.pinto@house.mn.gov)

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November 14, 2025

Minnesota Construction Codes Advisory Council

Re: Feedback in support of RE-41.1 to level the playing field between fuel types

CCAC Members,

Thank you for the opportunity to provide feedback on the proposed Residential Energy Code update before the CCAC. Fresh Energy is a non-partisan energy policy nonprofit with over 30 years of experience advancing bold policy for a just, carbon-free future.

At a time when energy affordability is threatened on multiple fronts, energy efficiency is critical for protecting our financial futures and advancing our climate goals in Minnesota. The state should be using every tool it has not only to responsibly advance efficiency, but also to count it accurately. Recognizing actual gains from common technologies is critical to making Minnesota more affordable and ensures we are investing in the most effective solutions.

This Residential Energy Code update will be the first since adopting a weakened 2012 IECC, and the passage of Minnesota's landmark energy code acceleration legislation in 2024. We applaud the staff and volunteers who have dedicated their time and expertise to advancing Minnesota's energy affordability and emissions reduction through the efficiency advances in the proposed code update. We urge the CCAC to approve strong efficiency measures in this update and in the future.

In particular, the CCAC should recommend inclusion of the September Update to RE-41.1, a code change to level the playing field between buildings of different fuel types. As written, the model code generally sets equal percent improvement requirements across equipment types, yet it uses different baselines for mixed-fuel homes vs all-electric homes. This unequal treatment obfuscates actual energy conservation, and makes it more difficult for builders and residents as the industry moves towards the 70% site energy use reduction required by 2038. Effectively, site energy use reductions will not be accurately accounted if they are unable to get full credit when installing the most efficient technologies compared to that of a minimum efficiency gas furnace.

RE-41.1 levels the playing field with a single conservation objective regardless of fuel type. Despite approval 11-1 by TAG members, we were concerned to learn the proposal may be weakened or worse, left out of the recommendation entirely. The November Update, as requested by DLI, is preferable to nothing at all. However, it weakens the proposal by cutting elements of Appendix NG (10% higher efficiency) and arbitrarily reducing the credit given to heat pumps, undermining fuel-neutral parity when measuring energy conservation. We strongly support inclusion of the stronger September version of RE-41.1 in this update.

The adoption of the 2024 IECC, along with strengthening amendments from the TAG, represents important progress for Minnesotans, and we are grateful to the stakeholders and leaders like yourselves who are helping advance a more comfortable, efficient, affordable future for everyone.

Sincerely,

Eric Fowler
Director of Building Performance
Fresh Energy

Greg Metz, State Building Official
Minnesota Department of Labor & Industry
Construction Codes and Licensing Division
443 Lafayette Road N.
St. Paul, MN 55155

August 18, 2025

RE: Opposition to Proposal RE-39 – Elimination of the Simulated Performance Alternative for Residential Compliance under the 2024 IRC (Section1105)

Dear Mr. Metz and Members of the Construction Codes Advisory Council,

I am writing to respectfully **oppose** the proposed code change heard before the 2025 Residential Energy Technical Advisory Group that intends to eliminate the *Simulated Performance Alternative* (Section N1105) as a compliance pathway for residential construction in the 2024 *International Residential Code* (IRC). For decades, this compliance method has served the residential construction industry as a proven, flexible, and cost-effective means to meet—and often exceed—energy targets. Eliminating this option would diminish flexibility, limit innovation, and increase construction costs for builders and homeowners across Minnesota.

Why the Simulated Performance Alternative Matters

1. **Supports Innovation and Design Flexibility**
   The performance path allows the builder, owner, and design team the option to use existing energy modeling to optimize the entire building system—envelope, mechanical, and lighting—rather than forcing the prescriptive "one-size-fits-all" approach. This flexibility is essential for:
   - Custom homes with unique designs or challenging site constraints.
   - Projects incorporating emerging technologies not yet reflected into prescriptive tables.
   - Affordable housing developments that must carefully balance costs with energy goals.
2. **Proven Cost-Effectiveness**
   Multiple studies by DOE's *Building America* program have shown that the performance path can achieve equivalent or greater savings than prescriptive compliance, often with

construction cost reductions of 3–7% by enabling targeted upgrades where they are most impactful.

- Under current **Minnesota Rule 1322**, which is based on the 2012 IECC, this path is already allowed. Its removal in future code updates would represent a regressive step, removing options builders currently rely on.
- The RE-39 proposal asserted in its Need and Reason statement item 3 that the lack of 'certified raters' throughout Minnesota makes this pathway 'inaccessible' to builders – which is misleading as the Simulated Performance Path does not require the use of 'certified raters', but rather independent inspections in the compliance verification process under 2024 IRC N1105.5.4.2. *For clarification, Certified Raters are a requirement of the Energy Rating Index compliance alternative, which is a **separate pathway** contained in Section N1106.*

3. **Maintains Accuracy in Energy Performance Verification**
   Energy simulations, when performed in accordance with model RESNET/ICC standards, provide a building-wide energy consumption estimate rather than focusing solely on minimum prescriptive measures. This type of trade-off—such as higher-efficiency HVAC systems in exchange for slightly reduced insulation thickness—still meet or exceed the target energy budget and provide a more tangible measure for evaluating project success.
   - The RE-39 proposal asserts that alignment of the compliance path will 'become increasingly difficult' in relation to the other compliance paths and statutory requirement. I would respectfully disagree as performance paths quantify energy use and provide a site-specific value that can be used for individual plan review at the jurisdiction-level or to calculate model energy costs comparisons across the state to track statutory progress towards the target energy goals prescribed by the legislature.

Demonstrating Value

- **Case Study 1 – Cold Climate, High-Performance Envelope**
  A 2,000 sq. ft. home in Minnesota achieved **18% better than code** using the performance path with R-30 walls, a high-efficiency heat pump, and triple-pane windows. Under prescriptive code, achieving this performance would have required approximately $4,500 in additional insulation—without energy benefits.
- **Case Study 2 – Balanced Mechanical Strategy**
  A single-family home with advanced HVAC controls and variable-speed equipment can meet the performance target while using prescriptive insulation values slightly below

code minimums. This type of trade-off saved $2,800 in construction costs while reducing annual cooling loads by up to 12% annually.

- **Case Study 3 – Affordable Housing Development**
  Affordable housing projects using the performance path to integrate cost-effective measures—such as ductless mini-splits and optimized window orientation—avoiding thousands of dollars in cumulative construction costs while maintaining verified energy performance.

Comparative Analysis – Performance vs. Prescriptive Paths

	Simulated Performance Alternative	Prescriptive Compliance
Design Flexibility	Allows trade-offs; accommodates unique designs	Fixed requirements with limited flexibility
Cost Control	Targets measures with best ROI; avoids unnecessary upgrades	May require component specific improvements with minimal gain in energy efficiency
Innovation Readiness	Easily integrates new tech and methods	Lags behind market innovation cycles
Verification	Whole-building simulation (RESNET/ICC standards) and simple third-party verification	Measure-by-measure checklist
Market Adoption	Widely used in both production and custom housing	Standard default path, but less adaptable

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Risks of Eliminating the Performance Path

- **Loss of Affordable Housing Options** – For many builders, especially in cost-sensitive markets or out-state communities, the performance path is the only viable way to meet energy goals without pricing projects out of reach for buyers.
- **Stifled Innovation** – Builders and designers may abandon high-performance systems or materials if prescriptive compliance doesn't allow offsets.

- **Regulatory Disruption** – Local jurisdictions, design professionals, HERS raters, energy modelers and code officials have made significant investments in supporting performance compliance. Removing this option would undermine that infrastructure and make reintroducing this pathway in a future code edition more difficult.

The Energy Provisions of the IRC have long balanced minimum performance standards with flexibility and innovation. Eliminating the Simulated Performance Alternative would tip that balance introducing rigidity, raising costs, and reducing-not increasing-actual energy savings.

We strongly urge the committee to **reject this proposal** and preserve the performance path in the 2024 IRC, ensuring builders, designers, and local jurisdictions retain access to this valuable compliance pathway.

Our team is available to support this process with further information, technical expertise, and case studies as needed. Thank you for your time, dedication, and commitment to sustainable, cost-effective housing policy for Minnesota's communities.

Thank you for your consideration.

Sincerely,

Hope Medina, CBO, CSP on behalf of the
Minnesota Energy Code Support Program