



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 (Section 1105)

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

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.
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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