Docket# 2025-R-CCE-0008 State Energy Conservation Code

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I will speak in support of adopting 2024 IECC-R base code without the additional requirement to reach DNREC's proposal for Net Zero Energy Ready requirements.

Historical Reasons that support this position

Ed Minch and I have a long history of working with Delaware home builders, advocating for efficient and affordable housing. Ed came to Delaware in 1980 and was the initial spark that enabled EPA to adopt the Thermal Bypass Checklist into Energy Star V.2. Ed introduced and piloted energy performance testing in Delaware's Weatherization Assistance Program that all States utilize today for prioritizing energy improvement scopes of work.

I joined Ed in 1990, although we met in 1981 while I was an energy auditor for Delmarva Power. Ed and I saw an opportunity to advance cost-effective solutions for building efficient and affordable housing in Delaware. The development of RESNET in 1995 and Energy Star for Homes in 1997 provided us with a platform to promote standardized performance testing combined with energy modeling and support EPA's new home energy programs.

Winning Partner of the Year awards from EPA was a compliment for our innovative approach, but creating a new home market of "Above Code" housing that reached 20% by 2007 was our greatest reward. Consider that Delaware provided no funding to builders or homebuyers that offset the difference between code and the above code requirements. **As of 2024, based on RESNET's annual summary review, Delaware's market share of rated homes is estimated at 44%. This is nearly twice the rate of surrounding States. The majority of HERS rated homes will comply with the requirements of 2024 IECC.**

Supporting & educating the local industry

We worked with DEO and HBA of DE to educate and inform, reminding our partners of Ed's strongest belief. "If it's not efficient, it's not affordable". We conducted demonstrations of building practices in builder member's homes under construction and completed models so the buidlers and their staff could see the importance of these measures and promote the benefits to homebuyers. Energy modeling enabled us to calculate estimated savings that exceeded minimum code so appraisers and lenders could provide "stretch lending" solutions to affordable buyers.

And we always understood that improving energy performance is not achieved by hoping for or mandating greater energy performance. You achieved greater market share when builder and code officials understood the requirements of above code performance. Consider duct design as one example of necessary and vital training. Delaware code offices in the 20th century were requiring a return in every bedroom without realizing that duct location and duct tightness had greater influence over operation and comfort than conforming to a return grill behind every door. We brought central return and thoroughly sealed duct solutions to the Jurisdictions Having Authority, (JHA) because of our relationship with affordable homebuilders such as Habitat for Humanity. This change in duct design improved energy performance and lowered construction costs once floor plans could align with the preferred practice. Compact central return systems and ducts thoroughly sealed are the typical duct design in Delaware today. Reaching the proposed DNREC performance standards without improved duct installation practices is nearly impossible. **Homes built without conditioned foundations and floor-framing between multi-stories that does not easily accept conditioning ducts are examples of a major barrier to 100% compliance of Net Zero Energy Ready requirements. These homes exist at beach communities and where code enforcement oversees the minimum 2018 energy performance standards.**

A rising tide lifts all boats

As recognized energy experts, we took our understanding of energy performance to ICC and the code development process. We advocated for energy updates that were supported by economic analysis. We advanced the practices that EPA adopted in Energy Star, such as the Thermal Enclosure Checklist and performance testing of duct systems and the building envelope. We supported the adoption of the ERI performance Path because ERI could closely describe the HERS score that Raters utilize to validate code compliance. The marriage between the energy code and Rater modeling was achieved when R408.2, Additional Measures table, was expanded in the 2024 energy code. This change enables builders that prefer the Prescriptive Path to assign practices because this table declares energy performance results for an specific measure. 2018 IECC does not include section R408. Training code officials to interpret builder submissions for Prescriptive Path or RESCheck modeling will require extensive education and training. Mandating at least 30 points derived from the Additional Efficiency Requirements will lead many builder submittals to include R408.2.7, on-sight renewable energy measures. Performance Path Energy modeling designs cannot include renewable energy measures until fully compliant with R405 or R406. **Energy modeling performed by Raters will diminish because the**

lowest cost to comply will be the Prescriptive Path. Rater inspections at close-in will occur less often and performance testing will only validate the basic requirements of duct tightness, building leakage, and ventilation. Above code program market share for ICC-700, Energy Star and DOE Zero Energy Ready will diminish. JHA's will become the educators and primary enforcement of energy code compliance.

Critical partners not at the table

Energy performance modeling derived from HERS Analysis has been compared to homeowner energy bills in newly built homes, proving their claims of lower operating costs. Unfortunately, operating cost estimates are rarely used to support a buyer's ability to purchase a home. PITI plus Utilities should be how we determine the cost of owning and operating a home. And if Delaware advances Zero Energy Ready performance, energy savings must be incorporated into the HUD-1 analysis and permit lenders to assign energy savings as a means afford the home. RESNET pursued this process in the previous century, Appraisal Institute advocated for Certified Green Appraisers and lenders have backing from the secondary lending markets. But energy costs are rarely used to score a buyer's ability to afford and repay the 30-year mortgage. A recent example in Delaware of Affordable new construction required a $17,000 grant per house to offset construction costs in order to comply with DOE ZER. If energy modeling cannot show $50 per month in savings, this standard of performance would not be financed in a 30-year mortgage without other considerations. **I cannot find any Certified Green Appraisers in Delaware. Realtors struggle to point to critical energy features in new homes unless the builder aligns with Energy Star or DOE ZER. Lenders are not utilizing advanced desk-top underwriting that is possible in Energy Star and DOE ZER compliant homes.**

Conclusion

I am in support of 2024 IECC without NZE Ready amendments because we must preserve the 44% market share of HERS reported housing and Raters who advise builders with energy modeling, building science solutions and experts trained and certified for the specific tasks of validating energy code compliance. Loosing this support will place far more burden on Government to train their inspectors to interpret code submittal applications, conduct close-in inspections and address homeowners concerns for energy performance.

The proposed NZE Ready performance requirements will push most HERS supported builders into the R408.2 table that is assigned to the Prescriptive Path. The 11 credits

assigned to Delaware climate zone for 1 watt per square foot of conditioned space will have greater economic justification. HERS rated, Performance Path builders will appear as less efficient because their homes will not include a minimum 2 to 3 kw of roof-mounted solar panels.

The lack of HERS modeling will remove the analysis appraisers will need to validate energy savings, which is provided to lenders who could use their information to validate a buyers ability to qualify for the 30-year loan. This will have the greatest adverse effect on affordable and middle income buyers.

Adopt the 2024 IECC without appendices and create State incentives to support above code home programs like ICC-700, Energy Star Homes and DOE ZER. These programs are losing the federal support through tax credits and program subsidies. Then measure the absorption rate by new home buyers for these above code programs in order to determine that a “carrot” approach can surpass the “stick” approach of government mandates.

Supporting documents:

RESNET reports 2024 HERS data,

chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.resnet.us/wp-content/uploads/2025-Data-Trends-Report-of-HERS-Rated-Homes_final.pdf

Fannie Mae, EPA POY Green Mortgage Backed securities, https://capitalmarkets.fanniemae.com/sustainable-bonds/green-bonds/single-family-green-mbs

ICC 2024-R, section R408.2.7 reference