

# 2024 IECC Residential Public Comment Draft #1 Summary

The table below lists the proposed major changes to the International Energy Conservation Code (IECC) – Residential that are included in Public Comment Draft #1 for the 2024 version of the code. This list is not comprehensive of all changes, but provides information on those that most impact the stringency of the code.

Section	Category	Summary
R102.1.1	Above Code Programs	Provides new thermal envelope backstop requirements, set at 1.08xUA for climate zones 0 through 2 and 1.15xUA for 3 through 8, to be considered in compliance with above code programs.
R401.2	Additional Energy Efficiency	Additional efficiency packages have been replaced with a points system (R408) and apply only to the prescriptive path; the requirement to exceed the ERI target by 5% has been removed.
R402.1.2	Insulation and Fenestration Criteria	Lowers the fenestration U-factor in climate zones 5 through 8 and marine 4.
		Lowers skylight U-factor in all climate zones.
		Removes SHGC requirement in climate zones 5 and marine 4.
		Increases ceiling U-Factor in climate zones 2 through 8 and marine 4 to 2018 IECC levels (values last updated in 2012 code).
		F-Factor (perimeter heat loss factor for slab-on-grade floors) added to table for unheated and heated slab floors.
R402.1.3	R-Value Alternative	Rolls back ceiling R-values back to 2018 IECC levels (values last updated in 2012 code).
		Provides an alternative R-value with continuous insulation.
R402.5.1.2	Thermal Envelope Testing	Reduces the maximum air leakage rate to 4 ACH or 0.22 cfm/sf.
R402.5.1.3	Air Leakage	Reduces prescriptive ACH to 2.5 in climate zones 6 through 8.
R402.5.1.4	Leakage Test Sampling	Creates an option for sampling to test for air leakage in buildings with eight or more dwelling units. Requires all units to be tested for air leakage in buildings with fewer than eight units.
R402.5.2.1	Gas Fireplaces	Creates new requirements for listing and labeling gas fireplace efficiency ratings.
R403.1.3		Bans continuously burning pilot light in gas fireplace systems.
R403.3.2	Ducts in Conditioned Spaces	Reduces insulation requirement between ducts located in wall/floor assemblies and unconditioned spaces. Clarifies that air handling equipment must be installed in conditioned spaces for the ducts to also be considered within conditioned space.

R403.3.6	Duct System Leakage	Max duct leakage table added and max values added for areas under 1000 sf; duct system sampling option added. Creates a new table charting maximum total duct system leakage requirements.
R403.3.7		Adds an option for sampling to test for duct system leakage in buildings with eight or more dwelling units. Requires all units to be tested for duct system leakage in buildings with fewer than eight units.
R403.5.2	Hot Water Pipe Insulation	Creates a new table defining hot water pipe insulation thickness requirements.
R403.5.5	Demand Responsive Water Heating	Requires demand responsive controls for electric storage water heaters between 40-120 gallons and an input rating up to 12kW.
R403.6	Heat/Energy Recovery Ventilation	Adds climate zone 6 to those required to be provided with a heat recovery or energy recovery ventilation system.
R403.7.1	Electric Resistance Zone Heated Units	Requires an additional heat source in largest living zone for homes using electric resistance zonal heating in climate zones 4 through 8.
R403.9	Roof and Gutter Deicing Controls	Requires automatic controls for roof and gutter deicing systems.
R404.1.1	Exterior Lighting	Removes commercial reference and incorporates exterior lighting requirements directly within Residential code for Group R-2, R-3, and R-4.
R404.2	Interior Lighting Controls	Expands and clarifies requirements for the application of dimmers and occupancy sensors for indoor lights.
R404.3	Exterior Lighting Controls	Adds requirement for exterior lighting controls for individual dwelling units. Directs all other exterior lighting to comply with Section 405.2.7 of the commercial IECC.
R404.5	Electric Readiness	Establishes electric-ready requirements for water heaters, dryers, and cooktops/ovens.
R404.6	Renewable Energy Infrastructure	Adds requirements for solar ready zones, including the total area required, obstructions, reserved space for electrical service, and electrical interconnection.
R404.7	Electric Vehicle Infrastructure	Creates new requirements for electric vehicle charging infrastructure including the number of charging stations required, necessary measures for EV capable and EV ready spaces, circuit capacity, and installation requirements.
R405.2	Performance Path Requirements	Sets the envelope backstop for the performance path at 1.08xUA in climate zones 0 through 2 and 1.15xUA in climate zones 3 through 8.
		Requires buildings not using fossil fuels for heating or water to perform better than 85% of the energy cost of the standard design, and those that have fuel burning appliances to perform better than 80% of the standard design. Dwelling units over 5000sf must meet an additional 5% requirement.
		Energy source multipliers reference ASHRAE 105.
R405.4	Standard Reference Design	Standard reference design for air leakage is 5 ACH for climate zones 0 through 2, 4 for 3 through 5, and 2.5 for 6 through 8.

		Standard reference design for heating and cooling equipment efficiency in the performance path is set to 10 CFR 430.32.
		Standard reference design duct location updated.
R406.3	ERI Path Requirements	Energy Rating Index thermal backstop modified to 1.08xUA in climate zones 0 through 2 and to 1.15xUA for 3 through 8.
R406.5		Provides for differing Energy Rating Index requirements depending on whether renewables are present or not.
		The Energy Rating Index without renewables present is reduced by one in each climate zone. ERI with renewables is set at 40 in all climate zones.
R408.2	Additional Efficiency measures	Additional Efficiency Package Requirements has changed to a point system: two measures totaling at least 10 credits are required, plus 5 additional credits for dwelling units over 5000 sf.
R408.2.1 - 408.2.5		Changes made to existing measure categories of enhanced envelope, more efficient HVAC equipment, more efficient duct thermal distribution system, and improved air sealing and efficient ventilation system.
R408.2.6 - 408.2.9		Creates additional categories for efficient appliances, renewable energy, demand response, and opaque walls.
R501.7	Existing Buildings - Changes in Space Conditioning	Unconditioned spaces that are altered to be conditioned spaces are required to comply with the full energy code, with an exception for alterations using the simulated performance option to be at 110% of the energy cost of the reference design.
R503.1.1	Existing Building Alterations	Requires the envelope that is part of an alteration in an existing building to comply with Section R402 Building Thermal Envelope and prohibits the reduction of insulating characteristics.
R503.1.2		Requires HVAC duct systems that are part of an existing building alteration to comply with Section R403 Systems in terms of installation location provisions, sizing, leakage, and controls.
R506	Existing Building Additional Efficiency Measures	Provides additional efficiency package options for additions and alterations such as enhanced envelope performance, more efficient HVAC, reduced energy use water heating, more efficient duct system, or improved air sealing and efficient ventilation.
RC103.3	Zero Net Energy Appendix	Lowers the net zero Energy Rating Index path maximum without renewables to 42 for all climate zones.
RC103.3.1		Reduces the energy contract term to 10 years and requires the contract to survive a partial or full transfer of ownership of the building property.
RD	Electric Energy Storage Provisions	Adds energy storage provisions applicable to new buildings where solar-ready measures or an onsite solar PV system are required.
RE	All-Electric Buildings	Adds an optional appendix for all-electric new residential buildings.
RF	Alternative Building Thermal Envelope	Provides alternative R-value appendix for wood frame above-grade wall assemblies where U-factors are less than or equal to those needed for compliance with Section R402.1.2.