Significant changes to the 2018 IRC and IECC

Changes to the 2018 IRC	
Section R301.2.2.1, Fig. 301.2(2), Fig. 301.2(3)	Determination of Seismic Design Categories. The seismic design maps have been updated to be consistent with those in the 2014 NEHRP Recommended Provisions and ASCE 7-16. The change increases the seismic design category in several areas including New England (particularly New Hampshire), eastern Tennessee, and near Charleston, South Carolina. An alternate map may result in a less stringent category if a geotechnical investigation accurately determines the local soil conditions.
Section R322.3.4 Flood Resistant Construction – Concrete Slabs.	A new provision for Zone V has been added requiring exterior slabs (i.e. parking pads, sidewalks, etc.) adjacent to or under elevated buildings be constructed to break up under flood conditions or be designed to resist flood loads (e.g. erosion and scour). The provisions apply to those slabs likely to cause damage to the building if displaced or undermined by flooding.
Section R322.3.7 Flood Resistant Construction – Stairways and Ramps.	A new provision for Zone V has been added requiring stairways and ramps constructed below the base flood elevation be constructed with open or partially open risers and guards, be designed to break away under flood conditions, or be able to be raised above the flood level. Breakaway stairs are not permitted as part of the primary means of egress.
Section R507.3 Exterior Deck Footings.	A table of minimum footing sizes for deck posts has been added, allowing selection of footing size based on soil-bearing capacity, snow or live load, and area supported by the post.
Sections R507.4 Exterior Deck Posts.	The deck post provisions are revised to require a 4x6 post where the post height exceeds 6' 9” but not 8' 0” and the post supports a 3-ply beam. 8x8 posts are also added to the table, providing an additional option for supporting multi-ply beams.

Section R703.2 Water-Resistive Barriers.	The exception for detached accessory buildings from water-resistive barrier (WRB) requirements is deleted. Some cladding manufacturers require a WRB behind their products even on an accessory structure, which may limit the impact.
Section R703.8.4, Table R703.8.4(2) Masonry Veneer Anchorage.	New provisions and a table are added for brick tie attachment over foam sheathing and direct to 7/16’” wood structural panel sheathing. The provisions and table require ring-shank nails or screws in lieu of 8d common nails and tighter spacing in many cases than traditional 32" horizontal/12" vertical or 16" horizontal/24" vertical tie patterns.
Section R507.5, Table R507.5 Exterior Deck Beams.	The deck beam span table is revised to provide minimum spans for single-ply beams. This will allow a stair landing serving a deck or a porch floor to be supported using single-ply beams instead of 2-ply beams.
Section R602.3.1, Table R602.3(6) Stud Size, Height and Spacing.	A new exception and table are added for 11-foot and 12-foot tall load-bearing studs. The exception and table provide an alternative for great rooms, foyers, garages and other spaces that do not fit the existing option for studs up to 18 or 20 feet.
Section R602.7.5 Support for Headers.	The table for minimum number of king studs supporting headers is revised based on wind speed and exposure category rather than stud spacing. The revised table only requires one or two studs for low-wind urban and suburban conditions.
Section R702.7.3 Vapor Retarders	Polypropylene siding is added to the list of products which can be considered a vented cladding product under Table R702.7.1. In the applicable climate zones, a builder would be able to omit a Class I or II vapor retarder on the interior side and use latex or enamel paint or other material qualifying as a Class III vapor retarder.
Section R806.5 Unvented Attics.	A new option is added for constructing an unvented attic with air-permeable insulation if vapor diffusion ports and a minimum amount of mechanical ventilation are provided. The option is intended to permit blown fiberglass in netting hung from roof trusses/rafters as an option in warm-humid climate zones.
Changes to the 2018 IECC	

Table N1101.1.2 and Table N1101.1.4 Window U-Factor.	The maximum window U-factor in Climate Zones 3 and 4 (except 4C) decreases from 0.35 to 0.32. The maximum window U-factor for Climate Zones 4C and 5-8 decreases from 0.32 to 0.30.
Table N1103.6.1 Fan Efficacy for HRVs/ERVs.	A minimum fan efficacy for HRVs/ERVs is introduced. The efficacy is the minimum required by the Energy Star HRV/ERV specification used in Canada. Where an HRV/ERV was classified as an in-line fan (minimum fan efficacy 2.8 CFM/watt), this is a relaxation of the code and a potential savings. Many HRV/ERV models already meet the new requirement, but some models may not, and there can be a cost increase to move to a different model.
Section N1103.3.6 (R403.3.6) Ducts Buried within Ceiling Insulation.	A new provision explicitly allow ducts buried, or partially buried, within ceiling insulation in vented attics (“buried ducts”). The sum of the insulation above and below the duct is at least R-19 total, and the minimum required duct insulation is R-8 except in Climate Zones 1A, 2A, and 3A where it is R-13. If ducts are deeply buried when using the performance path, a duct R-value of 25 can be used in the energy calculation.
Section N1103.3.7 (R403.3.7) Ducts Located in Conditioned Space.	A new provision allows buried ducts to be modeled as being located inside conditioned space where the air handler is located inside conditioned space (not the attic); the duct leakage is within prescribed limits (1.5 CFM25/100SFcfa) and the R-value of insulation above the duct is at least the proposed ceiling insulation R-value, used in the model, less the R-value of the duct insulation.
Table N1106.4 (R406.4) ERI Values.	The tabulated ERI values are increased around 10% and a backstop added for homes complying with the ERI using onsite generation. The revised ERI values bring the ERI compliance closer to the prescriptive path compliance, but still remain about 15% more stringent than one designed using the prescriptive path.
Section IRC M1601.4.1 Joints, Seams, and Connections.	The section was revised to removes the requirement for sealing longitudinal joints on ducts in conditioned spaces. The change will restore the ability to use snap-lock and button button-lock duct joints and seams for ducts located inside conditioned space.

Appendix T (IECC Appendix RA) Combustion Appliance Zone Testing.	Informative Appendix on Combustion Appliance Zone testing for gas appliances, is deleted.