2018 NC Fire Code
915 Carbon Monoxide Alarm and Detection Systems. (180612 Item B-5)

915.1.1 Where required. Carbon monoxide detection shall be provided in Group A-2, I-1, I-2, I-4 and R occupancies and in classrooms in Group E occupancies in the locations specified in Section 915.2 where any of the conditions in Sections 915.1.2 through 915.1.6 exist.

915.1.2 Fuel-burning appliances and fuel-burning fireplaces. Carbon monoxide detection shall be provided in Group A-2 occupancies, dwelling units, sleeping units and classrooms that contain a fuel-burning appliance or a fuel-burning fireplace.

915.1.3 Forced air furnaces. Carbon monoxide detection shall be provided in Group A-2 occupancies, dwelling units, sleeping units and classrooms served by a fuel-burning, forced air furnace.

915.4.1 Power source. Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.
Exceptions:
1. Where installed in buildings without commercial power, battery-powered carbon monoxide alarms shall be an acceptable alternative.
2. In A-2 occupancies the carbon monoxide detector shall be permitted to be battery-powered.

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

[Note: This Rule will also be printed in the 2018 NC Building Code, 915 Carbon Monoxide Alarm and Detection Systems.]

2018 NC Fuel Gas Code
311 Carbon Monoxide Alarms. (180612 Item B-7)

311.4.1.1 Where required. Carbon monoxide detection shall be provided in Group A-2, I-1, I-2, I-4 and R occupancies and in classrooms in Group E occupancies in the locations specified in Section 311.4.2 where any of the conditions in Sections 311.4.1.2 through 311.4.1.6 exist.

311.4.1.2 Fuel-burning appliances and fuel-burning fireplaces. Carbon monoxide shall be provided in Group A-2 occupancies, dwelling units, sleeping units and classrooms that contain a fuel-burning appliance or a fuel-burning fireplace.

311.4.1.3 Forced air furnaces. Carbon monoxide detection shall be provided in Group A-2 occupancies, dwelling units, sleeping units and classrooms served by a fuel-burning, forced air furnace.

311.4.4.1 Power source. Carbon monoxide alarms shall receive their primary power from the building where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.
Exceptions:
1. Where installed in buildings without commercial power, battery-powered carbon monoxide alarms shall be an acceptable alternative.
2. In A-2 occupancies the carbon monoxide detector shall be permitted to be battery-powered.

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Mechanical Code
313 Carbon Monoxide Alarms. (180612 Item B-6)

313.4.1.2 Fuel-burning appliances and fuel-burning fireplaces. Carbon monoxide shall be provided in Group A-2 occupancies, dwelling units, sleeping units and classrooms that contain a fuel-burning appliance or a fuel-burning fireplace.

313.4.1.3 Forced air furnaces. Carbon monoxide detection shall be provided in Group A-2 occupancies, dwelling units, sleeping units and classrooms served by a fuel-burning, forced air furnace.

313.4.1.1 Where required. Carbon monoxide detection shall be provided in Group A-2, I-1, I-2, I-4 and R occupancies and in classrooms in Group E occupancies in the locations specified in Section 313.4.2 where any of the conditions in Sections 313.4.1.2 through 313.4.1.6 exist.

313.4.4.1 Power source. Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.

Exceptions:
1. Where installed in buildings without commercial power, battery-powered carbon monoxide alarms shall be an acceptable alternative.
2. In A-2 occupancies the carbon monoxide detector shall be permitted to be battery-powered.

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

2018 NC Residential Code
R202, R305, R310, R328 Lofts. (180612 Item B-12)

Section R202
Definitions

EGRESS ROOF ACCESS WINDOW. A skylight or roof window designed and installed to satisfy the emergency escape and rescue opening requirements in Section R310.2.

LANDING PLATFORM. A landing provided as the top step of a stairway accessing a loft.

LOFT. A floor level located more than 30 inches (762 mm) above the main floor and open to it on at least one side with a ceiling height of less than 6 feet 8 inches (2032 mm), used as a living or sleeping space.

Section R305
Ceiling Height

R305.1 Minimum height. *Habitable space*, hallways and portions of *basements* containing these spaces shall have a ceiling height of not less than 7 feet (2134 mm). Bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches (2032 mm).
Exceptions:
1. For rooms with sloped ceilings, the required floor area of the room shall have a ceiling height of not less than 5 feet (1524 mm) and not less than 50 percent of the required floor area shall have a ceiling height of not less than 7 feet (2134 mm).
2. The ceiling height above bathroom and toilet room fixtures shall be such that the fixture is capable of being used for its intended purpose. A shower or tub equipped with a showerhead shall have a ceiling height of not less than 6 feet 8 inches (2032 mm) above an area of not less than 30 inches (762 mm) by 30 inches (762 mm) at the showerhead.
3. Beams, girders, ducts or other obstructions in *habitable space* shall be permitted to project to within 6 feet 4 inches (1931 mm) of the finished floor.
4. Ceiling heights in *lofts* are permitted to be less than 6 feet 8 inches.

Section R310
Emergency Escape and Rescue Openings

R310.2.6 Egress roof access window. Egress roof access windows shall be deemed to meet the requirements of Section R310 where installed such that the bottom of the opening is not more than 44 inches (1118 mm) above the floor, provided the egress roof access window complies with the minimum opening area requirements of Section R310.2.1.

Section R328
Lofts

R328.1 Minimum loft area and dimensions. *Lofts* used as a sleeping or living space shall meet the minimum area and dimension requirements of Sections R328.1.1 through R328.1.4.

R328.1.1 Minimum area. *Lofts* shall have floor area of not less than 35 square feet (3.25 m^2).

R328.1.2 Maximum area. *Lofts* shall have a floor area not greater than 70 square feet (6.50 m^2).

R328.1.3 Minimum dimensions. *Lofts* shall not be less than 5 feet (1524 mm) in any horizontal dimension.

R328.1.4 Height effect on loft area. Portions of a *loft* with a sloping ceiling measuring less than 3 feet (914 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the *loft*.
Exception: Under gable roofs with a minimum slope of 6 units vertical in 12 units horizontal (50-percent slope) portions of a *loft* with a sloped ceiling measuring less than 16 inches (406 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the *loft*.

R328.2 Loft access. The access to and primary egress from *lofts* shall be any type described in Sections R328.2.1 through R328.2.4.

R328.2.1 Stairways. Stairways accessing *lofts* shall comply with this code or with Sections R328.2.1.1 through R328.2.1.5.

R328.2.1.1 Width. Stairways accessing a *loft* shall not be less than 17 inches (432 mm) in clear width at or above the handrail. The minimum below the handrail shall be not less than 20 inches (508 mm).

R328.2.1.2 Headroom. The headroom in stairways accessing a *loft* shall be not less than 6 feet 2 inches (1880 mm), as measured vertically, from a sloped line connecting the tread or landing platform nosings in the middle of their width.

R328.2.1.3 Treads and Risers. Risers for stairs accessing a *loft* shall be not less than 7 inches (178 mm) and not more than 12 inches (305 mm) in height. Tread depth and riser height shall be calculated in accordance with one of the following formulas:
1. The tread depth shall be 20 inches (508 mm) minus 4/3 of the riser height; or
2. The riser height shall be 15 inches (381 mm) minus ¾ of the tread depth.

R328.2.1.4 Landing platforms. The top tread and riser of stairways accessing *lofts* shall be constructed as a landing platform where the *loft* ceiling height is less than 6 feet 2 inches (1880 mm) where the stairway meets the *loft*. The landing platform shall be 18 inches to 22 inches (457 to 559 mm) in depth measured from the nosing of the landing platform to the edge of the *loft*, and 16 to 18 inches (406 to 457 mm) in height measured from the landing platform to the *loft* floor.

R328.2.1.5 Handrails. Handrails shall comply with Section R311.7.8.

R328.2.1.6 Stairway guards. Guards at open sides of stairways shall comply with Section R312.1.

R328.2.2 Ladders. Ladders accessing *lofts* shall comply with Sections R328.2.2.1 and R328.2.2.2.

R328.2.2.1 Size and capacity. Ladders accessing *lofts* shall have a rung width of not less than 12 inches (305 mm) and 10 inches (254 mm) to 14 inches (356 mm) spacing between rungs. Ladders shall be capable of supporting a 200 pound (75 kg) load on any rung. Rung spacing shall be uniform within 3/8-inch (9.5 mm).

R328.2.2.2 Incline. Ladders shall be installed at 70 to 80 degrees from horizontal.

R328.2.4 Ships ladders. Ships ladders accessing *lofts* shall comply with Sections R311.7.12.1 and R311.7.12.2. The clear width at and below handrails shall be not less than 20 inches (508 mm).

R328.2.5 Loft Guards. *Loft* guards shall be located along the open side of *lofts*. *Loft* guards shall not be less than 36 inches (914 mm) in height or one-half of the clear height to the ceiling, whichever is less.

The delayed effective date of this Rule is January 1, 2020.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.