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Introduction

Welcome to the December 2025 OSFM Engineering Newsletter. This Newsletter is meant to update our readers on the most recent Building Code Council meeting results, but as most are aware there were no Building Code Council meetings in 2025, and the mandatory effective date of the 2024 NC Building Code is still subject to the seating of the Residential Building Code Council. After this occurs, we anticipate regularly scheduled meetings to resume.

However, we would like to update our readers on other items pertinent to building code, as construction and code enforcement is ongoing under the 2018 NC Building Code.

Current Topics

2024 North Carolina State Building Code – Legislative Update

The following is a link to our website that addresses the steps required before the 2024 NC Building Code will become mandatorily effective. It is still a moving date, and we will update this as it changes, but as of this writing this letter is still current.

<https://www.ncosfm.gov/letter-re-2024-state-building-code-effective-date>

A quick update on the A2L refrigerant transition Installation cutoff date summary

- **Systems.** Presently, as of this writing, the installation cutoff date for **stationary R-410A residential and light commercial air conditioning and heat pump systems** is Jan 1, 2026. If the EPA proposed rule is finalized without any changes, then stationary residential and light commercial heating and cooling **systems** using R-410A would be able to be installed indefinitely so long as they were manufactured or imported before January 1, 2025. There is currently no estimate of when the proposed rule will be finalized.
- **Products.** Presently, **installation of** stationary residential and light commercial air conditioning and heat pump **products** is at time of writing this update still set for **January 1, 2028**.
- **Components.** Presently, **repair** components for R-410a **systems** are able to be manufactured and installed, and at first glance it may not be obvious that a new R-410a condenser is not part of a new “system” but is instead slated for repair only. There is not an installation cutoff date on these repair components, but the manufacturers will eventually stop making them as the aftermarket business dries up.

Background and references

However, on October 3, 2025, the EPA published a proposed rule which in part would remove the installation cut-off dates for stationary residential and light commercial air conditioning and heat pump **systems** using refrigerants with a GWP greater than 700 (such as R-410A). The EPA then extended the public comment period: the comment period for this proposed rule now ends Friday, November 21, 2025. The EPA may amend this proposed rule further based on public comments, so please keep in mind that the final rule may not be exactly identical to what is currently proposed. If the proposed rule is finalized without any changes, then residential and light commercial heating and cooling **systems** using R-410A would be able to be installed indefinitely so long as they were manufactured or imported before January 1, 2025.ⁱ

Notably, this proposed rule does not remove the restrictions on refrigerant production, so there will not be an increase in the amount of R-410A refrigerant available. Also, manufacturers remain able to produce heating and cooling system components (“Specified component” means condensing units, condensers, compressors, evaporator units, and evaporators.) Specified

components are subject to labeling, reporting, and recordkeeping requirements using R-410A refrigerant **for repairs only**, but they are still prohibited from producing systems for new installations once the manufacturing deadline has passed.

To answer a few commonly received questions about this proposed rule: the deadline for **installation of** stationary residential and light commercial air conditioning and heat pump **products** is at time of writing this update still set for **January 1, 2028**. The deadline for VRF systems is still January 1, 2027, except if certain specified conditions are met, which would allow installation until January 1, 2028.ⁱⁱ The EPA's regulations define products and systems for the purposes of applying their regulations: please refer to their website below for further information. In general, under the EPA's definitions, a *product* is self-contained and functional upon leaving a factory (such as a window unit), while a *system* is at least partially assembled, charged, or connected in the field (such as split-systems).ⁱⁱⁱ The proposed rule also altered deadlines for other types of refrigeration systems, please refer to the link below to view the full rule if you would like more information.^{iv}

As a reminder, the adherence to the federal regulations lies predominantly with the license holder and as such, NC CEOs will not have the primary responsibility of enforcing these EPA restrictions. Section 101.5 of the 2018 NCMC addresses that NC Building Codes do not include all requirements for buildings and structures that may be imposed by other agencies, and identifies the responsible parties for identifying any additional requirements.^v

A note on R-22 systems^{vi}. R-22 was previously phased out in the United States because it is a hydrochlorofluorocarbon (HCFC) that depleted the Earth's ozone layer. R-410A is a hydrofluorocarbon (HFC). The ban on the production and import of new R-22 became final in 2020. For this reason, R-22 is not discussed under this transition, because these units are already phased out for new units.

Recurring Articles

Building Code Council – Quarterly Meetings (2025)

There were no Building Code Council meetings held in 2025.

Code Officials Qualification Board

Regularly scheduled meetings, past and future, are located at the following location:

<https://www.ncosfm.gov/licensing-cert/code-officials-qualification-board-coqb/coqb-meeting-dates>

This June, long-time Code Officials Qualification Board and Home Inspector Licensing Board Executive Director, Mike Hejduk, transitioned from OSFM to another State agency, where we wish him well. The Executive Directorship for the Boards now rests upon Joe Starling. General administrative questions can be submitted to Beth Williams, examination questions to Rich Hall, and investigations questions to Sam Whittington.

Department Notes

Engineering Department

Robert L Key, an experienced code official who has worked in several NC offices, has filled the Chief Residential Code officials' position. Robert Key comes to us with more than 20 years of experience enforcing the building codes. He has many years of homebuilding experience and earned his first Building inspection certificate from SBCCI in 1997. He holds level III inspection

certificates in Building, Electrical, Fire, Mechanical and Plumbing codes. Robert has served as Chief Building Official for three jurisdictions including Chapel Hill, Morrisville and Alamance County. Robert was raised in Livingston, New Jersey and has attended Thomas Edison State College of New Jersey, Piedmont Community College and Ocean County College, where he earned a 4.0 GPA in all three schools. Mr. Key currently resides in Hillsborough, with his wife of 31 years and two sons. His hobbies include playing the guitar and woodworking.

Hany A. Senada, PE, an experienced construction and code professional, has joined the Office of State Fire Marshal (OSFM) as the Chief Building Code Consultant (Commercial Code) in April 2025. Hany brings over 15 years of diverse experience in civil engineering, building inspections, and code compliance, both domestically and internationally. Prior to joining OSFM, Hany served as a Senior Plan Compliance Inspector with Wake County, where he reviewed commercial construction plans for compliance with North Carolina Technical Codes and local ordinances. His background also includes roles as a Special Projects Inspector and Project Engineer with Froehling & Robertson, Inc., and as a Construction Project Engineer in the UAE, where he managed structural design, inspections, and project executions on major high-rise buildings.

Hany holds a bachelor's in civil engineering from Assiut University/Egypt and is a licensed Professional Engineer (PE) in North Carolina. He also holds multiple ICC certifications, including Structural Bolting, Welding, Masonry, and Fireproofing, as well as a Level III Building Inspector certification.

Originally from Egypt, Hany now resides in Raleigh, NC, with his 10-year-old son and 8-year-old daughter. He is passionate about building safety, engineering excellence, and supporting the development community through clear and consistent code guidance. Hany is currently studying advanced topics in the field of structural engineering. In his free time, he enjoys playing and watching soccer.

As of December 2025, here is the staff list and respective responsibilities for the NC Building Code:

- Hany Senada: **Building** Code (non-accessibility)
919-647-0071 hany.senada@ncdoi.gov
- Charlie Johnson: **Fire** Code (includes Chapter 9 of the NCBC)
919-647-0094 charlie.johnson@ncdoi.gov
- Robert L Key: **Residential** Code:
919-647-0009 robert.key@ncdoi.gov
- Pam Schooler: **Existing Building** Code 919-647-0011: pam.schooler@ncdoi.gov
- Tara Barthelmess: **Accessibility**
919-647-0014 tara.barthelmess@ncdoi.gov
- C. Maggie Bowers: **Plumbing** Code
919-647-0062 maggie.bowers@ncdoi.gov
- Kate Whalen: **Mechanical** and **Fuel Gas** Code
919-647-0033 kathryn.whalen@ncdoi.gov
- Dan Dittman: **Energy** Code
919-647-0012 dan.dittman@ncdoi.gov

State Electrical Division Contacts

- Joe Starling: State **Electrical** Engineer
919-397-6159 joseph.starling@ncdoi.gov

- Ben Wesley: Chief Electrical Code Consultant & State Electrical Inspector
919-532-4175 ben.wesley@ncdoi.gov

In addition, the following topics will be addressed by:

- **Division Chief-Codes & Inspections: David Rittlinger** - contact for Statutes, Appeals, NCBC and NCRCC Council items, including meeting minutes and agenda, Rules Review Commission, Administrative Code
919-647-0008 david.rittlinger@ncdoi.gov
- **Chief Code Consultant, Pak Yip:** Formal interpretations
919-647-0007 pak.yip@ncdoi.gov
- **Sam Whittington:** Investigator, Complaints
919-647-0028 sam.whittington@ncdoi.gov
 - **Jeff Griffin:** Investigator, Complaints 919-647-0102
jeff.griffin@ncdoi.gov
 - **Bonnie Bentley:** Investigator, Complaints 919-647-0105
bonnie.bentley@ncdoi.gov

New Code Interpretations, Guidance Papers, and Appeals Posted

Since the prior full newsletter (Dec 2024), the following web interpretations, guidance papers, and appeals have been posted. Since we are 6+ years into the present code cycle, there have not been many web interpretations required as of late. However, there have been eleven formal interpretations, two guidance papers and several other web interpretations made and posted since the prior full newsletter.

Formal Interpretations

2025-0930 Guilford County 2018 NCRC Table R302.1 Exterior Walls
2025-1003 NCHBA 2018 NCFC B103.3 Areas without water supply systems.
2025-0917 Anthony London NCRC Section R101.2.2 Accessory Structures
2025-0808 Highland Learning Center 2018 NCBC 430.3 2018 NCFC 320.1 Definition of Second Grade Children
2025-0805 TED Richard Brown PLLC NCBC Section 721 Prescriptive Fire Resistance
2025-0314 FGA Associates 2018 NCEBC Section 505 Alteration-Level 3 Reconstruction
2025-0219 Johnson Controls Fire Protection 2018 NCBC 903.3.1.1 NFPA 13 sprinkler systems and NFPA 13-2013
2025-0214 Orange County Inspections Division 2018 NCRC AV105 Barrier Requirements
2025-0115 Mathew Griffith AIA 2018 NCRC R309.2 Carports
2025-0113 Four Points Dev LLC 2018 NCBC Section 3109 Swimming Pools Spas and Hot Tubs
20250108 Town of Chapel Hill BD 2018 NCBC Section 1030 Emergency Escape and Rescue

Guidance Papers

2025-0114 Out of School Child Care Within Group E Public Schools by a Third-Party Provider
A2L Refrigeration System Installation under the 2018 North Carolina Mechanical Code

Residential

1102 - Insulation Placement Between Multi-Family Dwelling Units
1307.1 - Manufacturer's Installation Instructions – Partial HVAC Replacement
1307.1 - Properly Matched Partial Replacement of a split System Heat Pump or Air Conditioner – A2L Refrigerant Considerations
AV105.2 - Pool barrier on adjacent property

Mechanical

0304.1 - Manufacturer's Installation Instructions – Partial HVAC Replacement

0304.1 - Properly Matched Partial Replacement of a split System Heat Pump or Air Conditioner – A2L Refrigerant Considerations

Reminders and other Resources

2026 NCBA/NCMA Winter Code Seminars & Other Training Opportunities

Many training dates and locations for the 2026 Con-ed time period have been published, please look at the individual organization for more details.

The most up-to-date training schedule for all building codes are available at the following link:

<https://www.ncosfm.gov/licensing-cert/code-officials-qualification-board-coqb/coqb-code-education>

Once the web page is accessed, click the “**FIND A CLASS**” button to refine your search. Please check out the available on-line courses, and carefully read the locations and means of course offering. It is suggested that you contact the organization or individual providing the training to verify the locations and means of training before traveling to any given site or registering for a class. As always, please consider the use of Standard Courses for fulfilling Con-Ed requirements, as they are an underutilized tool for that purpose.

Other websites of Inspector Organizations that offer training

<http://www.ncbia.org/> (Building Inspectors Association)

<http://ncpia.us/> (Plumbing Inspectors Association)

<https://www.nc-mia.com/> (Mechanical Inspectors)

<http://www.ncfma.com/> (Fire Marshals association)

<https://nceia.com/> (Electrical Inspectors, note the new website address)

ⁱ EPA Rule Summary “Proposed Rule: Phasedown of Hydrofluorocarbons: Reconsideration of Certain Regulatory Requirements Promulgated Under the Technology Transitions Provisions of the American Innovation and Manufacturing Act of 2020 (2023 Technology Transitions Rule)”:

<https://www.epa.gov/system/files/documents/2025-09/sept2025-tt-reconsideration-proposed-rule-summary-sheet.pdf>

ⁱⁱ EPA Frequent Questions on the Phasedown of Hydrofluorocarbons “Can EPA explain the terminology used in the Technology Transitions Program?”:

<https://www.epa.gov/climate-hfcs-reduction/frequent-questions-phasedown-hydrofluorocarbons#explain-terminology>

ⁱⁱⁱ EPA Factsheet “October 2023 Final Rule - Phasedown of Hydrofluorocarbons: Restrictions on the Use of Certain Hydrofluorocarbons under Subsection (i) of the American Innovation and Manufacturing Act of 2020”:

https://www.epa.gov/system/files/documents/2024-12/final_rule_fact_sheet_updated.pdf

^{iv} Link to EPA Proposed Rule in the Federal Register “Phasedown of Hydrofluorocarbons: Reconsideration of Certain Regulatory Requirements Promulgated Under the Technology Transitions Provisions of the American Innovation and Manufacturing Act of 2020”:

<https://www.federalregister.gov/d/2025-19438>

^v 2018 North Carolina Mechanical Code Section 101.5:

101.5 Requirements of other State agencies, occupational licensing boards or commissions.

The North Carolina State Building Codes do not include all additional requirements for buildings and structures that may be imposed by other State agencies, occupational licensing boards and commissions. It shall be the responsibility of a permit holder, registered design professional, contractor or occupational license holder to determine whether any additional requirements exist.

^{vi} <https://www.epa.gov/ods-phaseout/technicians-and-contractors-frequent-questions>