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 OFFICE OF STATE FIRE MARSHAL

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## Introduction

Welcome to the December 2022 OSFM Engineering Newsletter. This is an abbreviated Newsletter intended to highlight just the current topics and the Building Code Council December meeting. Since our October 2022 newsletter, there was a regularly scheduled Building Code Council meeting held December 13th. The result of the meeting will be posted in the BCC minutes at a future date prior to the March 2023 Meeting, but the results of the D-items are noted, unofficially, in the Building Code Council Approved Rule Changes article below. Another article concerning the appliance standard increase is posted for the benefit of the readers; it can be viewed next in the Current Topics section, and finally a short notice of the OSFM office location move is provided in this newsletter.

## Current Topics

### 2024 NC Building Code

Several volumes of the proposed 2024 NC Building Code were introduced as B-items at the December 13<sup>th</sup> Building Code Council Meeting. The remainder of the volumes not already submitted will be introduced at the March 2023 Building Code Council meeting. As a reminder, the schedule has some slack time built in for editing and processing time, so at this time it is still on schedule, or not behind schedule even for the code volumes being submitted in March of 2023.

The schedule would go as follows for items submitted as B-items at the December 2022 meeting:

- December 2022 – B-Item
- March 2023 – C-Item
- June 2023 – D-Item
- Rules Review Approval between June 2023 and September 2023.
- Proof reading and submittal to ICC for printing after Rules Review has approved.

### Appliance standards – DOE

This is the fourth and final reminder of the scheduled appliance efficiency increase taking effect January 1, 2023. As previously noted in the February 2022, July 2022, and October Engineering Newsletters, state energy codes, including NC, cannot preempt federal law, and therefore the minimum efficiency allowed simply follows the federal requirement, including the dates when they go into effect. Designers and contractors are encouraged to plan accordingly, as the effective date is not based on permit date of a project, but rather on the effective date of the standard. **The effective date is:**

- For **straight AC units (split systems or package)** January 1, 2023, and this is an installed-by date. Equipment not meeting the standard **cannot** be legally installed in NC **on or after this date**, but they could be shipped to other areas of the country where the installed-by date is not mandatory. Please note this installed-by date is for split systems

and package units, and the Southwest has an added condition for straight AC package units, whereas the Southeast does not. See Figure 1 for details.

- For **heat pumps** (split system or package) January 1, 2023, but it is a manufacturing end date, so products legally manufactured up to that point in time **can** be installed even after that date to use up inventories.
- This efficiency increase is not for commercial units, only to HVAC units subject to the National Appliance and Energy Conservation Act of 1987 (NAECA).

The split-system heat pump requirements for NC are going to be 15 SEER in cooling mode, and 8.8 HSPF in heating. Straight AC split systems will be required to be 15 SEER if capacity if less than 45,000 Btu/hr, and 14.5 SEER if capacity is greater than or equal to 45,000 Btu/hr.

Somewhat complicating the issue is the rating system is also changing, and the use of SEER2 and HSPF2 ratings are transitioning in. The table below in Figure 1 has the equivalent SEER2 and EER values equating to the present SEER and EER ratings. Straight AC package units must meet the revamped SEER and EER as noted in Figure 1:

Link to standards (web search, 12/16/2022):

[10 CFR § 430.32 Energy and water conservation standards and their compliance dates - Code of Federal Regulations \(ecfr.io\)](https://www.ecfr.io/430.32)

**FIGURE 1: REVAMPED SEER AND EER RATINGS**

(5) Central air conditioners and central air conditioning heat pumps manufactured on or after January 1, 2023, must have a Seasonal Energy Efficiency Ratio 2 and a Heating Seasonal Performance Factor 2 not less than:

Product class	Seasonal energy efficiency ratio 2 (SEER2)	Heating seasonal performance factor 2 (HSPF2)
(i)(A) Split systems - air conditioners with a certified cooling capacity less than 45,000 Btu/hr	13.4	
(i)(B) Split systems - air conditioners with a certified cooling capacity equal to or greater than 45,000 Btu/hr	13.4	
(ii) Split systems - heat pumps	14.3	7.5
(iii) Single-package units - air conditioners	13.4	
(iv) Single-package units - heat pumps	13.4	6.7
(v) Small-duct, high-velocity systems	12	6.1
(vi)(A) Space-constrained products - air conditioners	11.7	
(vi)(B) Space-constrained products - heat pumps	11.9	6.3

(6)(i) In addition to meeting the applicable requirements in paragraph (c)(5) of this section, products in product classes (i) and (iii) of paragraph (c)(5) of this section (i.e., split systems - air conditioners and single-package units - air conditioners) that are installed on or after January 1, 2023, in the southeast or southwest must have a Seasonal Energy Efficiency Ratio 2 and a Energy Efficiency Ratio 2 not less than:

Product class	Southwest **	Southeast *	
	SEER2	SEER2	EER2 ***
(i)(A) Split-systems - air conditioners with a certified cooling capacity less than 45,000 Btu/hr	14.3	14.3	11.7/9.8 †
(i)(B) Split-systems - air conditioners with a certified cooling capacity equal to or greater than 45,000 Btu/hr	13.8	13.8	11.2/9.8 ††
(iii) Single-package units - air conditioners			10.6

\* "Southeast" includes the States of Alabama, Arkansas, Delaware, Florida, Georgia, Hawaii, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, Virginia, the District of Columbia, and the U.S. Territories.

\*\* "Southwest" includes the States of Arizona, California, Nevada, and New Mexico.

\*\*\* EER refers to the energy efficiency ratio at a standard rating of 95 °F dry bulb outdoor temperature.

† The 11.7 EER2 standard applies to products with a certified SEER2 less than 15.2. The 9.8 EER2 standard applies to products with a certified SEER2 greater than or equal to 15.2.

†† The 11.2 EER2 standard applies to products with a certified SEER2 less than 15.2. The 9.8 EER2 standard applies to products with a certified SEER2 greater than or equal to 15.2.

Manufacturer’s may market their products with the tradional SEER values that we are most familiar with, but will transition to the new rating during the year. Therefore, be aware that a **SEER2** of 13.4 is meeting the new requirments, although the 13.4 is less than the SEER 15 that has been communicated.

### Guidance for Code Officials

There will be no special inspections on Dec 31, 2022 (New Year’s Eve, and it is on a Saturday this year) to determine if the last of the legally allowed straight-AC systems were installed in any given building. Documenting the installation date is largely going to be the responsibility of the installing contractor, and we suggest they maintain their paperwork if their work is later

called into question by an interested third-party, such as the buyer. Code officials are limited to the inspections listed in the administrative code, and therefore if the inspection occurs on or after Jan 1, 2023 (New Year's Day, and it is a Sunday) and there was not a prior inspection of the system noting the absence of the unit on Dec 31, 2022, the code official has no reason to disapprove it. However, by the same token, they also cannot prove it *was* installed, so if the installation date is called into question, the contractor is wholly responsible for their installation.

The last time this occurred, in 2015, (it was erroneously stated as 2013 in October Newsletter) we do not recall any issues after-the-fact, and the straight AC units then were subject to the same install-by rules as are coming up, so the expectation is it will be the same, in that installers select equipment appropriate and legal for the intended installation date.

## OSFM office move

The Office of State Fire Marshal, which includes the Engineering division, will be vacating the Albemarle building by the end of 2022. The physical address of our new location will be 1429 Rock Quarry Road, Raleigh, NC. Our e-mails and phone numbers will be unchanged. Mail should still be sent to the 1202 Mail Service Center location as always.

There will be a time period where employees will be working remotely during the transition time between office move out and the move into the tenant space at 1429 Rock Quarry Road. Minor upgrades are required at the new location to accommodate the staff. We hope this will be a relatively seamless transition for our clients.

## Recurring Articles

### Building Code Council Approved Rule Changes

A regularly scheduled quarterly BCC meeting was held on December 13th, 2022. The full agendas can be read at the links listed below. The link will take you to the BCC Minutes webpage and the reader must then click on the .pdf file to open the agenda file. The minutes for the September meeting are on the website, the September minutes will be available at a later date. However, the unofficial results of the D-items for the September meeting are posted below.

#### BCC Meeting Agenda-December 2022

[Building Code Council Meeting - December 13, 2022 | OSFM \(ncosfm.gov\)](#)

#### BCC Meeting Minutes-September 2022

[BCC September 13 Minutes \(PDF\) | OSFM \(ncosfm.gov\)](#)

Once the Building Code Council "approved" D-items are also approved by the Rule Review Commission, (sometimes an amendment gets sent back to Building Code Council for various technical reasons) the adopted rules will be placed on the NCDOT Engineering website.

The full review of the approved code amendments is left to the reader, but **the titles of each item** are bulleted below. Remember these are not final until they are through the Rules Review process. The approved September D-items, if approved by Rules Review Commission, will be effective January 1, 2024 for items pertaining to the Commercial Building Code.

#### BCC Proposed Amendments-September 2022

- Item D – 1 Request by Kim Wooten representing self to amend the 2020 National Electrical Code, Article 100 Definitions as follows (220315 Item B-6): (Remainder not shown for brevity) – **approved**
- Item D – 2 Request by Charlie Johnson representing NCDOT/OSFM to amend the 2018 NC Fire Code, Section D107.1 as follows (220614 Item B-1): (Remainder not shown for brevity) - **approved**
- Item D – 3 Request by Charlie Johnson representing NCDOT/OSFM to amend the 2018 NC Fire Code, Section D107.2 as follows (220614 Item B-2): (Remainder not shown for brevity) – **approved**

- Item D – 4 Request by Colin Triming representing the NC Fire Code Revision Committee to amend the 2018 NC Fire Code Sections 510.4.2, 510.5, 510.5.4, and Chapter 80 as follows (220614 Item B-3): (Remainder not shown for brevity) – **approved**
- Item D – 5 Request from Mark Burns representing NC DOI / OSFM to amend the 2018 Plumbing Code, Table 605.3 as follows (220614 Item B-5): (Remainder not shown for brevity) – **approved**
- Request from Mark Burns representing NCDOI / OSFM to amend the 2018 Residential Code, Table P2906.4 as follows (220614 Item B-6): (Remainder not shown for brevity) – **approved**

End of Newsletter

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