



North Carolina Building Code Council

Staffed by the NC Department of Insurance

Mike Causey, Commissioner of Insurance
Carl Martin, RA, Secretary

(919) 647-0001
(919) 662-4414 Fax

1202 Mail Service Center
Raleigh, NC 27699-1202

325 N. Salisbury Street
Raleigh, NC 27603

Building Code Council

Chair:

Bridget Herring - 23
(Public Representative)

Vice Chairman:

Daniel S. Priest, RA - 22
(Architect)

Members:

Michael Ali, PE - 23
(State Agency)

Robert Axford - 25
(Electrical Contractor)

Chris Berg, PE - 27
(Structural Engineer)

Charles A. Conner, AIA - 22
(Architect)

Gary Emblar - 23
(Home Builder)

Ralph Euchner - 25
(Gas Industry)

David Gieser, RA - 27
(Building Inspector)

Mary Humiston, PE - 25
(Electrical Engineer)

Natalie MacDonald, PE - 27
(Mechanical Engineer)

Gloria Shealey - 27
(General Contractor)

Deborah Shearin - 25
(Plumbing & Heating Contractor)

Jason B. Shepherd - 27
(Fire Services)

David L. Smith - 22
(Coastal Contractor)

Victoria Watlington - 22
(Municipal Government Rep)

Robert Zapple - 22
(County Gov't Rep)

STAFF REPORT

TO: North Carolina Building Code Council

FROM: Rob Roegner, Chief Deputy State Fire Marshal, Sr.
Deputy Commissioner of Engineering Services,
OSFM

RE: Six Year Code Cycle

At the September 14, 2021 quarterly meeting, you asked that staff gather information for your consideration regarding the advantages and disadvantages of a shorter code adoption cycle given the concerns raised by the North Carolina Department of Public Safety ("DPS") that the current six-year code cycle is impacting North Carolina municipalities' and counties' ability to win federal FEMA Building Resilient Infrastructure and Communities (BRIC) grants and other grant funding.

The term "code cycle" refers to the frequency with which the ten component technical codes in the North Carolina State Building Code are revised and adopted to reflect updates in new editions of the model codes that that technical codes are based upon. For example, the 2018 North Carolina Building Code is based upon 2015 edition of the International Code Council's International Building Code.

Importantly, N.C. Gen. Stat. § 143-138(d) provides that the North Carolina Residential Code may be revised "only every six years" and, consistent with that timetable, the Council is presently working to revise and update the North Carolina Building Code, North Carolina Plumbing Code, North Carolina Mechanical Code, North Carolina Fire Code, North Carolina Fuel Gas Code, North Carolina Energy Conservation Code, and North Carolina Existing Buildings Code on the same six-year timeline, with targeted effective dates of January 1, 2025.

In response to the Council's request for additional information, please find attached for your review materials addressing the pros and cons of a six-year code cycle as compared to a shorter three-year cycle, as well as some background information regarding the code cycle's impact on ISO Building Code Effectiveness Grading Schedule (BCEGS), North Carolina property insurance premiums, and FEMA BRIC grants.

PROS of a six-year code cycle

The most frequently-cited advantages of the six-year code cycle are decreased costs and easier regulatory compliance.

- Less code development committee work/meetings for BCC members and subject matter experts to attend and participate in.
- Code officials are only exposed to the adoption of a “new” technical code based on the latest edition of the underlying model code once every six years.
- Decreased costs to the regulated public because code books are updated less frequently and, therefore, purchased less often.
- Fewer “Code Update” classes prepared by DOI
- Less test bank validation and fewer updates.
- Additional capacity for DOI staff. DOI is only responsible for code update presentations once every 6 years versus every three years.

CONS of a six-year code cycle

Here are some of the arguments against the six-year year code cycle:

- North Carolina's Building Code does not keep up with the most recent technologies and advancements in construction and in the trades without going through a periodic code change to adopt in new technology.
 - Advances in construction processes and/or technologies may be delayed until the next code adoption, unless brought forward as a code change (not an option for the North Carolina Residential Code, which may be revised “only every six years”).
 - North Carolina may become a “dumping ground” jurisdiction for outdated technologies and products that have been eliminated from those states updating their building codes based on newer editions of the ICC/NFPA model codes.

- Negatively impacts the ISO's *Building Code Effectiveness Grading Schedule* (BCEGS) rating of every community within the state of North Carolina. (See additional information regarding impact of BCEGS ratings below).
- Negatively impacts insurance ratings statewide and, potentially, could decrease participation in the National Flood Insurance Program (NFIP).
- Although on the surface, a six-year code cycle may appear less expensive for DOI because DOI is only responsible for code update presentations every six years, in reality the technical codes are changed often and DOI has to do all the preparatory work for code proposals and follow-up rulemaking work for adopted code changes.
- As with the three-year cycle, code officials and contractors are forced to monitor the web for updates quarterly.
- Extended period between adoptions provides a greater potential for code changes to be missed by inspectors.
 - Longer periods between adoptions may lead to increased inconsistency.
 - Greater risk of inadvertent contradictions in code language.
- Code change proponents have an opportunity to cherry pick from the more recent editions of the model codes when advantageous, instead of carrying everything forward and modifying a current document.
- North Carolina will be “unable to compete” in the BRIC grant market from 2021 to 2025 due to the weight assigned to the building code scoring criteria.

Building Code Council Meetings

Public comment regarding transition from a three-year code cycle to a six year code cycle was received at the Council's September 12, 2013, December 10, 2013, and March 11, 2014 quarterly meetings. The Council adopted a six-year code cycle for all technical codes, except the North Carolina Electrical Code, at the March 11, 2014 meeting. In addition to the written public comments submitted to the Council, audio of the public comments received at the meetings is available for your review.

- This [link](#) (User ID: BCCBoard, Password: GETrecordBCC!) provides access to audio recordings of the September 12, 2013 and December 10, 2013 Building Code Council quarterly meetings produced using Articulate software. Public comment on the proposed change from a three-year code development cycle to a six-year code cycle was received at both meetings. Audio accompanies each slide in the Articulate presentation. Each slide addresses an individual topic or speaker and identifies the issue being discussed. The documents submitted with the proposed change are contained in the slide presentation.

- Here is a [link](#) to a Sharefile folder that contains the audio recording of the March 11, 2014 Building Code Council quarterly meeting, as well as accompanying written public comments. The vote on the six-year code cycle occurs between the 2 hour 27 minute mark and 2 hour 40 minute mark of the recording. Additional public comment regarding the six-year cycle was received following the vote.

Information about BCEGS ratings and the BRIC grant program

ISO BCEGS ratings are used by commercial and personal lines property insurance underwriters to assess community building codes and their enforcement, with special emphasis on mitigation of losses from natural hazards. BCEGS ratings consist of two 0-to-100 point scale scores: one for one- and two-family residential construction and another for commercial or industrial construction. ISO translates those scores to a scaled class rating of 1 (exemplary commitment to building code enforcement) to 10 (not so much). The edition/revision year of the ICC/NFPA model code that the effective building codes are based upon is a key factor for BCEGS scores and class ratings. Jurisdictions with well-enforced, up-to-date codes should demonstrate better loss experience, which can be reflected in lower insurance rates and premium discounts. In addition, a more favorable BCEGS classification can help a community qualify for FEMA Hazard Mitigation Assistance (HMA) and BRIC grants and BCEGS classifications are currently part of the criteria for receiving discounted flood insurance premiums from the National Flood Insurance Program (NFIP) through the Community Rating System (CRS) program.

While Massachusetts embraces BCEGS ratings at the state level and North Carolina does not, the following documents explaining the BCEGS rating process and the impact of the ratings on FEMA grants and NFIP premiums in Massachusetts are instructive:

[Microsoft Word - MA FAQ final.doc \(mass.gov\)](#)

[Requirements-BCEGS-Program.pdf \(pial.org\)](#)

[Building Code Effectiveness Grading Schedule \(BCEGS®\) Data Usage and Applicability | ISO Mitigation](#)

North Carolina competes against many other states for FEMA BRIC grant funds. The BRIC grant application process utilizes the BCEGS grading schedule to award points.

For your consideration, here is a link to the September 2020 BCEGS briefing for the South Florida Building Officials Association appears below. [Presentation Title \(wsimg.com\)](#)

There are some important takeaways for North Carolina:

- Page 10 -- Shows NFIP insurance discount levels for participation in the program (up to 25%).
- Page 11 – New emphasis has been placed on building code and enforcement to be competitive in the BRIC program.
- Page 11 -- BCEGS is now a benchmark for award of grant funding through the BRIC program.
- Page 13 -- Shows adoption of Hazard-Resistant Building Codes by state based on BCEGS data; note that Florida has essentially 100% participation while North Carolina's participation is much lower. There are some North Carolina communities participating in BCEGS despite North Carolina's lack of a statewide program.

Please also see the link below to the 2019 ISO National Building Code Assessment report:

[iso-bcegs-state-report_web.pdf \(isomitigation.com\)](#)

- Pages 44-47 -- Describes how the BCEGS program works and how grades are developed.
- Page 47 – North Carolina had one BCEGS Class 1 rating jurisdiction (Charlotte Mecklenburg) in 2019.
- Page 48 – The report indicates in a footnote that “commercial and residential codes weakened” in North Carolina between 2015 and 2019.
- Page 80 -- North Carolina had a commercial BCEGS state average score of 62 and a residential BCEGS state average score of 59 in 2019, which translated into BCEGS Class 5 rating for both commercial and residential.

Additional Links and Attachments

North Carolina Rate Bureau

January 12, 2015 letter from the Personal Lines Manager of the North Carolina Rate Bureau to all member companies which, among other things, notes that BCEGS ratings are addressed and considered in the Rate Bureau's Community Mitigation Classification Manual (see page 3) controlling the Homeowners and Dwelling Policy Programs in North Carolina.

[January 12, 2015 \(ncrb.org\)](#)

Staff Report: Six-Year Code Cycle
December 3, 2021
Page 6

I am available to address your concerns, questions, or issues with the materials provided.

Respectfully Submitted,

Rob Roegner

**Chief Deputy State Fire Marshal
Senior Deputy Commissioner
of Engineering Services**
1202 Mail Service Center
Raleigh NC 27699-1202
919.647.0098

