

Office of Regulatory Management  
Economic Review Form

<b>Agency name</b>	Board of Housing and Community Development
<b>Virginia Administrative Code (VAC) Chapter citation(s)</b>	13 VAC 5 – 63
<b>VAC Chapter title(s)</b>	Uniform Statewide Building Code
<b>Action title</b>	Update the Uniform Statewide Building Code
<b>Date this document prepared</b>	January 5, 2023

**Cost Benefit Analysis**

Table 1a must be completed for all actions. Tables 1b and 1c must be completed for actions (or portions thereof) where the agency is exercising discretion, including those where some of the changes are mandated by state or federal law or regulation. Tables 1b and 1c are not needed if **all** changes are mandated, and the agency is not exercising any discretion. In that case, enter a statement to that effect.

- (1) Direct Costs & Benefits: Identify all specific, direct economic impacts (costs and/or benefits), anticipated to result from the regulatory change. (A direct impact is one that affects entities regulated by the agency and which directly results from the regulatory change itself, without any intervening steps or effects. For example, the direct impact of a regulatory fee change is the change in costs for these regulated entities.) When describing a particular economic impact, specify which new requirement or change in requirement creates the anticipated economic impact. Keep in mind that this is the proposed change versus the status quo. One bullet has been provided, add additional bullets as needed.
- (2) Quantitative Factors:
  - (a) Enter estimated dollar value of total (overall) direct costs described above.
  - (b) Enter estimated dollar value of total (overall) direct benefits described above.
  - (c) Enter the present value of the direct costs based on the worksheet.
  - (d) Enter the present value of the direct benefits based on the worksheet.
- (3) Benefits-Costs Ratio: Calculate d divided by c OR enter it from the worksheet.
- (4) Net Benefit: Calculate d minus c OR enter it from the worksheet.
- (5) Indirect Costs & Benefits: Identify all specific, indirect economic impacts (costs and/or benefits), anticipated to result from the regulatory change. (An indirect impact is one that results from responses to the regulatory change, but which are not directly required by the regulation. Indirect impacts of a regulatory fee change on regulated entities could include a change in the prices they charge, changes in their operating procedures or employment levels, or decisions to enter or exit the regulated profession or market. Indirect impacts also include responses by other entities that have close economic ties to the regulated entities, such as suppliers or partners.) If there are no indirect costs or benefits, include a specific statement to that effect.

- (6) Information Sources: Describe the sources of information used to determine the benefits and costs, including the source of the Quantitative Factors. If dollar amounts are not available, indicate why they are not.
- (7) Optional: Use this space to add any further information regarding the data provided in this table, including calculations, qualitative assessments, etc.

**Agency Note: The Uniform Statewide Building Code, Statewide Fire Prevention Code, Industrialized Building Safety Regulations, and the Virginia Amusement Device Regulations are based on national model codes and standards. These codes and standards are incorporated by reference except where Virginia makes specific amendments in compliance with state law or via its extensive stakeholder development process.**

#### **National Model Codes – Development Overview**

The International Code Council (ICC) develops construction and public safety codes through a governmental consensus process. The Code Council governmental consensus process meets the principles defined by the National Standards Strategy of 2000, and the OMB Circular A-119, Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities (1998). It complies with Public Law 104-113 National Technology Transfer and Advancement Act of 1995.

#### **Openness**

- Participation in the development of the codes, including code hearings, is open to all at no cost.
- Anyone can submit a code change proposal or make a public comment.
- Code committees must consider all views before voting.

#### **Transparency**

- Evidence of committee vote, with reason, must be documented.
- Final decisions are made in an open hearing by public safety officials.

#### **Balance of Interests**

- Committee members represent general interests, user interests, producer interests, or multiple interests. One-third of the committee's members must be public safety officials.
- Committee members cannot vote on issues that are a conflict of interest.
- ICC membership is not a condition of committee membership.

#### **Due Process**

- A code change proponent has the opportunity to rebut opponents and vice versa.
- Anyone who attends the hearing can testify.
- Committees are required to consider all views, objections and the cost impact of all code change proposals.

#### **Appeals**

- Anyone can appeal an action or inaction of the code committee.
- ICC renders its decision on the appeal based on whether due process was served.

Consensus

- Committee members vote to approve the code change, make modifications to it, or vote against it.
- A simple majority from the committee decides the action of the proposed code change.

A link to the national process is here: <https://www.iccsafe.org/products-and-services/i-codes/code-development/current-code-development-cycle-archive-2018-2019/>

**Other Standards Incorporated – In addition to the ICC Model Codes, the Uniform Statewide Building Code, Statewide Fire Prevention Code, Industrialized Building Safety Regulations, and the Virginia Amusement Device Regulations incorporate other national standards. The process for each standard is governed by the promulgating organization, but all generally follow the American National Standards Institute (ANSI) accredited process of balanced committees, openness and appeals, etc. and are subject to regular review.**

**This document identifies state amendments to the model codes. A majority of the changes included in this action are clarifications/editorial in nature. For example, they correct references to other codes, clarify existing language, or remove duplicative provisions. The table included at the end identifies proposals that are not believed to have a cost impact. As described in detail below, this action is not believed to have a cost impact for local governments (Table 2). The items included related to tables 1, 3, and 4 are changes in this action believed to have a cost impact as determined by the proponent of the code change. For many, the impact is based on the scope of the work being completed. Generally, cost impact and benefit information is as provided by a proposal’s proponents and where proponents have provided specific scenarios, this information is included. Detailed code change proposal information is available at - <https://www.dhcd.virginia.gov/board-housing-and-community-development-bhcd> under 2021 Code Development Cycle.**

**Table 1a: Costs and Benefits of the Proposed Changes (Primary Option)**

(1) Direct Costs & Benefits	<ul style="list-style-type: none"> <li>• See Table 1 supplement below.</li> </ul>	
(2) Quantitative Factors	Estimated Dollar Amount	Present Value
Direct Costs	(a)	(c)
Direct Benefits	(b)	(d) 1)

(3) Benefits-Costs Ratio		(4) Net Benefit	
(5) Indirect Costs & Benefits	1)		
(6) Information Sources	<b>Code change proposals as submitted.</b>		
(7) Optional			

**Table 1b: Costs and Benefits under the Status Quo (No change to the regulation)**

*This table addresses current requirements and the implications of not making any changes. In other words, describe the costs and benefits of maintaining the current regulatory requirements as is.*

**Agency Note: A majority of the changes included in this action are clarifications/editorial in nature. For example, they correct references to other codes, clarify existing language, or remove duplicative provisions. For these changes, maintaining the regulation without change may result in confusion or implementation challenges.**

(1) Direct Costs & Benefits	<ul style="list-style-type: none"> <li>• See Table 1 supplement below.</li> </ul>		
(2) Quantitative Factors	Estimated Dollar Amount	Present Value	
Direct Costs	(a)	(c)	
Direct Benefits	(b)	(d)	
(3) Benefits-Costs Ratio		(4) Net Benefit	
(5) Indirect Costs & Benefits			

(6) Information Sources	Code change proposals as submitted.
(7) Optional	

**Table 1c: Costs and Benefits under an Alternative Approach**

*This table addresses an alternative approach to accomplishing the objectives with different requirements. These alternative approaches may include the use of reasonably available alternatives in lieu of regulation, or information disclosure requirements or performance standards instead of regulatory mandates*

**Agency Note: In general, the Uniform Statewide Building Code, Statewide Fire Prevention Code, Industrialized Building Safety Regulations, and the Virginia Amusement Device Regulations are performance-based codes. Outside of general administrative requirements, the codes typically offer various compliance paths to achieve the desired construction outcome. As the codes are performance based, the ability to provide alternative approaches is part of the framework of the codes.**

**A majority of the changes included in this action are clarifications/editorial in nature. For example, they correct references to other codes, clarify existing language, or remove duplicative provisions. For these changes, the alternative would be maintaining the regulation without change, which may result in confusion or implementation challenges.**

(1) Direct Costs & Benefits	See agency note.		
(2) Quantitative Factors	Estimated Dollar Amount	Present Value	
Direct Costs	(a)	(c)	
Direct Benefits	(b)	(d)	
(3) Benefits-Costs Ratio		(4) Net Benefit	

(5) Indirect Costs & Benefits	
(6) Information Sources	<b>Code change proposals as submitted.</b>
(7) Optional	<p><b>Virginia is required by code to consider national model codes and standards in the development of its construction codes and as such, it is important to stay current with the latest updates of these standards. The alternative is to continue to utilize older editions of the model codes. Updates are beneficial to consumers and regulants in considering the newest technologies and safety considerations as well as staying current for insurance rating agencies, FEMA, and other entities.</b></p> <p><b>Virginia’s code updates process offers all affected stakeholders significant opportunity to propose amendments to the national model codes that work best for Virginia. There is an open and transparent stakeholder process prior to the adoption of the codes.</b></p>

Table 1 Supplement

Proposal ID	VAC Section Number (13VAC5-63-...)	Description	Cost Impact Statement Submitted by Proponent	Impact/Benefit from Reason Statement	Status Quo
B102.3(1)-21	20	Clarifies that children's play structures installed inside buildings are subject to the children's play structures section in Chapter 4 of the VCC". Reason: The proposal is really an intent to clarify common practice/code application across the commonwealth.	This code change will increase cost in cases where equipment that does not meet the materials flammability and combustibility specifications of VCC 424.2 would be installed if exempted from code.	The provisions of VCC chapter 4 regarding children’s play structures regulate the fuel loading limitations and fire protection requirements associated with having these structures inside of buildings. Fire protection provisions related to installation of play structures in buildings should remain applicable.	If incorrectly interpreted, children’s play structures installed inside buildings might be exempted from the applicable USBC requirements.
B108.3-21	80	Allows for jurisdictions to not be forced to accept applications by mail when an online permit application option exists.	Allowing for an online option instead of a mail-in (paper) option reduces the cost to local jurisdictions that want to move to all digital permitting services. It also reduces costs for architects and builders to submit digitally, rather than via mail/paper. Ultimately, reducing the cost of construction.	Jurisdictions should not be required to accept applications by mail if an online option is available. If customers are mailing an application, then they already have the ability to go online to download the application to mail it in. This does not prevent in-person services, it only allows for greater flexibility for jurisdictions that have moved towards online systems since COVID.	Jurisdictions must continue to accept mailed applications.
B706.1-21	230	Makes it clear that fire walls create separate buildings for application of Chapter 9 of the VCC and other provisions beyond allowable height and area	This code change proposal will reduce the cost of construction though I don't know how to give a number. As an example: in prior code editions you could build a 30,000 sf warehouse without installing a sprinkler system by use of a fire barrier at 10,000 sf and a fire wall at 20,000 sf. With the	This code change makes it clear that fire walls create separate buildings for application of chapter 9 and other provisions beyond allowable height and area as was always intended. To address the issue of shared systems, the last line was added.	Certain buildings separated from adjacent buildings via fire walls, could be required to be protected by an automatic fire sprinkler system.

			2015 amendment that same building would require a sprinkler system, even if fire walls were used at both 10,000 and 20,000 square foot area limits.		
B1602-21	200; 270; 360	Incorporates provisions and design parameters for buildings in tornado prone regions.	This proposal may increase the cost of construction for Risk Category III and IV buildings and other structures located in the tornado-prone region where tornado loads govern the design.	This proposal is a coordination proposal to bring the 2024 IBC up to date with the provisions of the 2022 edition of ASCE/SEI 7 Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE/SEI 7-22).	Buildings do not have to be designed for tornado loads.
EC-C503.3.2-21	433.3	Requires new heating and cooling equipment that are part of a commercial alteration to be sized in accordance with Section C403.1.1 of the VECC.	As “wrong-sized” equipment is generally oversized, this proposal will generally decrease the cost of installation. Smaller, right-sized equipment will generally be less costly to install. Savings will vary based on the amount that existing equipment is oversized. “Right-sizing” has been found to result in about 0.2% energy savings for every 1% reduction in oversizing.	This proposal provides additional assurances with explicit language to ensure equipment is sized based on current building characteristics and loads, using current sizing standards. The resulting installations will be more efficient and more effective and many will be less costly to install as owners stop paying for more equipment than they need.	Requirements could be missed leading to incorrectly sized equipment.
M410.2-21	310	Expands the list of acceptable pressure test ports beyond a simple tee fitting by recognizing integral test ports in devices that meet the intent of the code	This proposal would decrease the cost of construction by eliminating unnecessary fittings and joints in the gas piping system.	This proposal eliminates unnecessary fittings, joints, and potential leak paths in the gas piping system.	More fittings than may be necessary could be required.
P1003.3.2-21	320	Allows food waste grinders to connect to grease interceptors if the discharge passes through a solid interceptor first	Having to add a solids separator within the series will increase the costs when compared to being able to bypass a grease interceptor.	The use of food waste grinders also become a dumping sink for all food wastes and the grinders break up the food into small particles that heavily contribute to Fats, Oils and Grease production. Grease interceptors are not designed to handle solids loading so a solids interceptor is needed before a grease interceptor. If food waste grinder drains are allowed to bypass a grease interceptor, then the grease is passed through to the sewer collection system.	Continued passage of grease into sewer systems.

RB202-21	210	Correlates definitions in the IRC with the NFIP.	This proposal may have a marginal increase in the cost of construction when garages and carports are constructed in flood hazard areas.	The definition for FLOOD HAZARD AREA is being added to the residential code to correlate with the commercial code.	IRC definitions would not correlate with those in the National Flood Insurance Program.
RB330.1-21	210	Exempts accessory dwelling units from the sound transmission requirements between dwelling units.	By providing an exception for ADUs it will decrease the cost of construction.	Accessory dwelling units are designed to provide an affordable housing alternative. Making ADUs meet the sound transmission requirements can become costly, especially when converting an existing structure, which we feel does not meet the purpose of ADUs.	Continue to require ADUs to meet costly sound transmission requirements.
RE2701.1.1-21	300	Deletes the GFCI protection requirements in Section 210.8(F) of NFPA 70.	This change will reduce the cost of construction by not requiring GFCIs for outdoor outlets and by reducing the number of call-backs for HVAC contractors.	Currently, separate standards for the tripping current of GFCI devices and the allowable leakage current of air conditioner condenser units creates an incompatibility issue.	Require GFCI protection for outdoor HVAC units which could trigger repeated and costly call-backs for contractors.
RE3902.17-21	210	Deletes the GFCI protection requirements for outdoor outlets (other than the receptacles covered in 3902.3).	This change will reduce the cost of construction by not requiring GFCIs for outdoor outlets and by reducing the number of call-backs for HVAC contractors.	Currently, separate standards for the tripping current of GFCI devices and the allowable leakage current of air conditioner condenser units creates an incompatibility issue.	Require GFCI protection for outdoor HVAC units which could trigger repeated and costly call-backs for contractors
REC-R403.1.2-21	264, 210	Restricts the installation of electric resistance heating and of heat pumps that are designed to activate resistance back-up when outdoor temperatures are above 40°F.	This proposal may, but will not necessarily, increase the cost of construction. However, it will substantially reduce total costs occupancy and lifecycle to residents.	Electric resistance heat is a highly inefficient form of space heating when compared to electric heat pumps. Heat pumps are roughly 300% more efficient than resistance heat (and more so compared to combustion heat). <a href="https://mygreenmontgomery.org/2021/environmental-and-economic-advantages-of-switching-to-an-electric-heat-pump/">https://mygreenmontgomery.org/2021/environmental-and-economic-advantages-of-switching-to-an-electric-heat-pump/</a> Baseboard electric heating also distributes heat poorly compared to ducted systems or ductless mini-splits. Reliance on electric resistance heat for a primary heat source (as opposed to a supplemental resistance element in a heat pump for especially cold conditions) raises heating costs for residents compared to electric heat pumps. Electric resistance heating also imposes substantial seasonal and peak-period cost burdens on electric utilities, which get passed on to other utility customers.	Continue to permit use of electric resistance heat when heat pump might be feasible.

REC-R403.3.3-21	264, 210	Updates the code provisions related to duct testing to be consistent with the 2021 IECC.	For homes that would not have been required to test ducts (because they are located inside conditioned space), this proposal will result in a construction cost increase of about \$200 for a duct test. However, the proposal substantially reduces homeowner risk, because the test will objectively verify that the heating and cooling systems are operating as intended, and will provide an opportunity for the builder to correct any mistakes. The test will also reduce the likelihood of a builder callback.	The purpose of this code change proposal is to help ensure long-term energy savings, occupant comfort and promote good building quality by establishing a maximum level of duct leakage permitted as a trade-off backstop for duct tightness. We propose a backstop that would still permit substantial flexibility – double the allowable leakage rate as the prescriptive requirement -- but that would establish a “worst case scenario” for all tested homes in all compliance paths.	Continue to exempt HVAC ducts located within the building thermal envelope, from the testing requirements.
REC-R503.1.2-21	433.3	Requires new heating and cooling equipment that are part of a residential alteration to be sized in accordance with the IECC.	As “wrong-sized” equipment is generally oversized, this proposal will generally decrease the cost of installation. Smaller, right-sized equipment will generally be less costly to install. Savings will vary based on the amount that existing equipment is oversized. “Right-sizing” has been found to result in about 0.2% energy savings for every 1% reduction in oversizing.	Historically, HVAC equipment has been routinely oversized. Studies have found very high rates of equipment oversizing; for example, 60% of RTU units in CA were found to be oversized. Oversized equipment results in increased energy use, decreased occupant comfort and increased wear-and-tear on equipment. Oversized equipment is also less effective at dehumidification. Like-for-like equipment replacement are particularly vulnerable to oversizing.	Requirements could be missed leading to incorrectly sized equipment.
EB102.2.2-21	410	Correlates the repair or replacement of smoke alarms in the VEBC with the VRC	The cheapest smoke alarm I could find on Amazon was an \$8.27 9V only alarm that would not meet this code provision. The cheapest smoke alarm I could find on Amazon that meets the requirement is \$15.99.	This code change brings application of the VRC to R-5 consistent with use of the VEBC for R-5.	Smoke alarms in rehabs will use outdated technology

EB502.1.1-21	433; 439	Adds a new referenced standard for assessing, designing, and repairing structural concrete: ACI 562.	The use of this referenced standard should in many cases reduce the cost of repair.	This proposal amendment adds ACI CODE 562-21: Assessment, Repair and Rehabilitation of Existing Concrete Structures, to establish minimum requirements for the evaluation, design, construction, repair, and rehabilitation of concrete structural elements in buildings for various levels of desired performance as deemed appropriate for the project.	Requirements for the repair of existing concrete structures would continue to be unclear, without defined objectives and anticipated performance for code officials, owners, designers, contractors, and installers
EC-Appendix CB-21	264	Adds Appendix CB to be used as an alternative to the building thermal envelope provisions of the IECC for Groups F, S, and U.	The recent update to the International Energy Conservation Code causes undue hardship on building owners, developers, and contractors while they do not reap the full benefits of the standards.	The systems required to meet the current energy code are complicated and time consuming. These systems have other drawbacks such a liner system that cover up the purlins and girts affecting other trades such as plumbing, HVAC, electrical, and sprinkler. (The added cost to the electrical and mechanical trades are in addition to the cost shown in the examples above.) The trims on overhead doors and window on the new required systems are deep. These trims make the wall accessories look recessed and some would say less attractive. The current energy code makes some architectural features more difficult to design and build around. For example, just adding a masonry wainscot becomes a challenge.	Apply current commercial energy code to all buildings in use groups, F, S, and U.
B903.2.3-21	240	Deletes the new IBC occupant load threshold for requiring an automatic sprinkler Group E fire area, maintaining the state amended fire area threshold.	This will remove the requirement for the structure to be sprinklered if the occupant load is greater than 300, but still under the 20,000 square foot requirement that currently exists.	During the 2018 ICC code change a change was put into place and it was not reviewed for consistency with current Virginia changes and now during the code update training it was questioned about its possible inconsistency. Virginia has consistently modified the model code square footage related to Educational Use and Occupancy with regards to requiring sprinklers from model code 12,000 to Virginia's 20,000.	Certain smaller school buildings may be required to sprinkler certain portions of the building.

**Impact on Local Partners**

- (1) Describe the direct costs and benefits (as defined on page 1) for local partners in terms of real monetary costs and FTEs. Local partners include local or tribal governments, school divisions, or other local or regional authorities, boards, or commissions. If local partners are not affected, include a specific statement to that effect and a brief explanation of the rationale.
- (2) Quantitative Factors:
  - (a) Enter estimated dollar value of total (overall) direct costs described above.
  - (b) Enter estimated dollar value of total (overall) direct benefits described above.
- (3) Indirect Costs & Benefits: Describe any indirect benefits and costs (as defined on page 1) for local partners that are associated with all significant changes. If there are no indirect costs or benefits, include a specific statement to that effect.
- (4) Information Sources: describe the sources of information used to determine the benefits and costs, including the source of the Quantitative Factors. If dollar amounts are not available, indicate why they are not.
- (5) Assistance: Identify the amount and source of assistance provided for compliance in both funding and training or other technical implementation assistance.
- (6) Optional: Use this space to add any further information regarding the data provided in this table, including calculations, qualitative assessments, etc.

Note: If any of the above information was included in Table 1, use the same information here.

**Agency Note: The Uniform Statewide Building Code is enforced by local building departments. While any changes to the building code must be carried out via the local building department, DHCD and the Virginia Building Code Academy provide training to impacted building departments. Please see item 5 and 6 below.**

**Table 2: Impact on Local Partners**

(1) Direct Costs & Benefits	<b>\$0</b>
(2) Quantitative Factors	Estimated Dollar Amount
Direct Costs	<b>(a) \$0</b>
Direct Benefits	<b>(b) \$0</b>
(3) Indirect Costs & Benefits	<b>\$0</b>
(4) Information Sources	<b>Code change proposals as submitted.</b>

(5) Assistance	<b>The Department of Housing and Community Development provides training to all local government code officials on code changes at no cost in many cases. Training is conducted via the nationally recognized Virginia Building Code Academy.</b>
(6) Optional	<b>Many code change proposals are submitted by local government officials; local government officials have an active part in the code development process and a local government code official is a member of the Board.</b>

**Economic Impacts on Families**

- (1) Describe the direct costs and benefits (as defined on page 1) to a typical family of three (average family size in Virginia according to the U. S. Census) arising from any proposed regulatory changes that would affect the costs of food, energy, housing, transportation, healthcare, and education. If families are not affected, include a specific statement to that effect and a brief explanation of the rationale.
- (2) Quantitative Factors:
  - (a) Enter estimated dollar value of direct costs.
  - (b) Enter estimated dollar value of direct benefits.
- (3) Indirect Costs & Benefits: Describe any indirect costs and benefits (as defined on page 1) to a typical family of three that are most likely to result from the proposed changes.
- (4) Information Sources: describe the sources of information used to determine the benefits and costs, including the source of the Quantitative Factors. If dollar amounts are not available, indicate why not.
- (5) Optional: Use this space to add any further information regarding the data provided in this table, including calculations, qualitative assessments, etc.

Note: If any of the above information was included in Table 1, use the same information here.

**Table 3: Impact on Families**

(1) Direct Costs & Benefits	<ul style="list-style-type: none"> <li>• <b>See table 3 and 4 supplement below.</b></li> </ul>
(2) Quantitative Factors	Estimated Dollar Amount
Direct Costs	
Direct Benefits	(a)
(3) Indirect Costs & Benefits	

(4) Information Sources	<b>Code change proposals as submitted.</b>
(5) Optional	

**Impacts on Small Businesses**

- (1) Describe the direct costs and benefits (as defined on page 1) for small businesses. For purposes of this analysis, “small business” means the same as that term is defined in § 2.2-4007.1. If small businesses are not affected, include a specific statement to that effect and a brief explanation of the rationale.
- (2) Quantitative Factors:
  - (a) Enter estimated dollar value of direct costs.
  - (b) Enter estimated dollar value of direct benefits.
- (3) Indirect Costs & Benefits: Describe the indirect benefits and costs (as defined on page 1) for small businesses that are most likely to result from the proposed changes.
- (4) Alternatives: Add a qualitative discussion of any equally effective alternatives that would make the regulatory burden on small business more equitable compared to other affected business sectors, and how those alternatives were identified.
- (5) Information Sources: describe the sources of information used to determine the benefits and costs, including the source of the Quantitative Factors. If dollar amounts are not available, indicate why not.
- (6) Optional: Use this space to add any further information regarding the data provided in this table, including calculations, qualitative assessments, etc.

Note: If any of the above information was included in Table 1, use the same information here.

**Table 4: Impact on Small Businesses**

(1) Direct Costs & Benefits	<ul style="list-style-type: none"> <li>• See table 3 and 4 supplement below.</li> </ul>
(2) Quantitative Factors	Estimated Dollar Amount
Direct Costs	(a)
Direct Benefits	(b)
(3) Indirect Costs & Benefits	

(4) Alternatives	<p><b>Virginia is required by code to consider national model codes and standards in the development of its construction codes and as such, it is important to stay current with the latest updates of these standards. As such, the alternative is to continue to utilize older editions of the model codes. Maintaining up to date codes is beneficial to consumers and regulants in considering the newest technologies and safety considerations as well as staying current for insurance rating agencies, FEMA, and other entities.</b></p> <p><b>Virginia’s code updates process offers all affected stakeholders significant opportunity to propose amendments to the national model codes that work best for Virginia. There is an open and transparent stakeholder process prior to the ultimate adoption of the codes.</b></p>
(5) Information Sources	<p><b>Code change proposals as submitted.</b></p>
(6) Optional	

Table 3 and 4 Supplement				
Proposal ID	VAC Section Number (13VAC5-63-...)	Description	Family Impact	Small Business Impact
B102.3(1)-21	20	Requires children's play structures installed inside buildings to be subject to the children's play structures section in Chapter 4 of the VCC.	None expected.	If existing regulations have been incorrectly applied thus far, the change may increase construction cost for new small businesses with indoor children's play structures (fast food, some entertainment venues).
B108.3-21	80	Allows for jurisdictions to not be forced to accept applications by mail when an online permit application option exists.	None expected.	May decrease cost for design professionals and builders due to allowing digital submission of documents.
B706.1-21	230	Makes it clear that fire walls create separate buildings for application of Chapter 9 of the VCC and other provisions beyond allowable height and area.	None expected.	May decrease the construction cost for certain structures where firewalls create "separate" buildings.
B1602-21	200; 270; 360	Incorporates provisions and design parameters for buildings in tornado prone regions.	None expected.	Unlikely as business/small business building would not be class III or IV.
EC-C503.3.2-21	433.3	Requires new heating and cooling equipment that are part of a commercial alteration to be sized in accordance with Section C403.1.1 of the VECC.	Explicit language will help ensure compliance potentially leading to correctly sized, more efficient HVAC equipment.	Explicit language will help ensure compliance potentially leading to correctly sized, more efficient HVAC equipment.
M410.2-21	310	Expands the list of acceptable pressure test ports beyond a simple tee fitting by recognizing integral test ports in devices that meet the intent of the code.	Potential cost savings for families living in certain R-2 (i.e. condo settings).	Potential cost savings for small businesses with construction involving gas fittings.
P1003.3.2-21	320	Allows food waste grinders to connect to grease interceptors if the discharge passes through a solid interceptor first.	None expected.	Some small businesses in food industry may need to install food grinders during new construction.
RB202-21	210	Correlates definitions in the IRC with the NFIP	There may be marginal cost increases for those locating carports or garages in flood areas.	None expected.

RB330.1-21	210	Exempts accessory dwelling units from the sound transmission requirements between dwelling units	May make more housing options available in certain areas.	None expected.
RE2701.1.1-21	300	Deletes the GFCI (ground fault circuit interrupter) protection requirements in Section 210.8(F) of NFPA 70	This change will reduce the cost of construction by not requiring GFCIs for outdoor outlets and by reducing the number of call-backs for HVAC contractors.”.	(1) Certain GFCI manufacturers may not be able to sell as many GFCI. (2) May reduce contractor callbacks on certain HVAC installations
RE3902.17-21	210	Deletes the GFCI protection requirements for outdoor outlets (other than the receptacles covered in 3902.3)	This change will reduce the cost of construction by not requiring GFCIs for outdoor outlets and by reducing the number of call-backs for HVAC contractors	1) Certain GFCI manufacturers may not be able to sell as many GFCI. (2) May reduces contractor callbacks on certain HVAC installations.
REC-R403.1.2-21	264, 210	Restricts the installation of electric resistance heating and of heat pumps that are designed to activate resistance back-up when outdoor temperatures are above 40°F.	(1) Reduces options of allowed heat systems (2) Potential utility cost savings over the life of the systems.	(1) Reduces options of allowed heat systems (which could take certain manufacturers/suppliers out of market); (2) May be beneficial for manufacturer’s/suppliers/installer of the allowed type of systems.
REC-R403.3.3-21	264, 210	Updates the code provisions related to duct testing to be consistent with the 2021 IECC.	(1) Cost increase when purchasing/remodeling homes due to increase scope of work for testing; (2) Potential utility cost savings.	1) May be beneficial for those specialized in this type of testing (2) There may be a construction cost increase for developers due to increase scope of work for testing. (3) Could reduce builder callbacks
REC-R503.1.2-21	433.3	Requires new heating and cooling equipment that are part of a residential alteration to be sized in accordance with the IECC.	Explicit language will help ensure compliance potentially leading to correctly sized, more efficient HVAC equipment.	Explicit language will help ensure compliance potentially leading to correctly sized, more efficient HVAC equipment
EB102.2.2-21	410	Correlates the repair or replacement of smoke alarms in the VEBC with the VRC	May cause a small cost increase (\$8-10 per alarm) for some rehabs that involve smoke alarms but will provide better technology	May cause a small cost increase (\$8-10 per alarm) for some rehabs that involve smoke alarms but will provide better technology.
EB502.1.1-21	433; 439	Adds a new referenced standard for assessing, designing, and repairing structural concrete: ACI 562.	None expected.	May provide additional concrete repair options for businesses.
EC-Appendix CB-21	264	Adds Appendix CB to be used as an alternative to the building thermal	None expected.	(1) Reduced construction costs for building developers/owners (2) Potential

		envelope provisions of the IECC for Groups F, S, and U.		impact on insulation manufacturers/distributors/installers.
B903.2.3-21	240	Deletes the new IBC occupant load threshold for requiring an automatic sprinkler Group E fire area, maintaining the state amended fire area threshold.	This could benefit new smaller private schools (small business) that would otherwise require sprinklers.	This could benefit new smaller private schools (small business) that would otherwise require sprinklers.

**Changes to Number of Regulatory Requirements**

*For each individual VAC Chapter amended, repealed, or promulgated by this regulatory action, list (a) the initial requirement count, (b) the count of requirements that this regulatory package is adding, (c) the count of requirements that this regulatory package is reducing, (d) the net change in the number of requirements. This count should be based upon the text as written when this stage was presented for executive branch review. Five rows have been provided, add or delete rows as needed.*

**Agency Note: As noted above, the Uniform Statewide Building Code, Statewide Fire Prevention Code, Industrialized Building Safety Regulations, and the Virginia Amusement Device Regulations are performance-based codes. Outside of general administrative requirements, the codes typically offer various compliance paths to achieve the desired construction outcome. As such, most code changes impact the number of requirements (either plus or minus) should a regulant pick a particular approach. The changes included in this action did not include new administrative requirements which would be broadly applicable regardless of performance path chosen.**

Proposals that are not expected to have a cost impact		
Proposal ID	VAC Section Number (13VAC5-63-...)	Description
FP1207 (USBC Portion)	220	SFPC Sub-Workgroup proposal to address Energy Storage Systems (USBC Portion of Proposal Only)
B918.1(2)-21	240; 300	Provides a reference to the IFC for the technical provisions and installation requirements for in-building emergency communication systems.
B102.3(2)-21	20	Clarifies that playground equipment that you typically see in a backyard, at a school, in a public park, etc., are not USBC regulated structures.
B107.1-21	70	Updates the VCC with the current law by stating that, with the exception of the levy collected pursuant to Section 107.2, fees levied pursuant to this section shall be used only to support the functions of the local building department
B108.2-21	80	Deletes the qualifier for pools to not exceed 5,000 gallons to be exempt from permitting since there is no combination of sizes under this exemption that would allow a pool to be greater than 5,000 gallons.
B110.9-21	70; 100	Provides a mechanism to allow for the proactive cancellation or discontinuance of building permits by the permit holder or the owner.
B118-21	180; 200	Cleans up the Unsafe Buildings or Structures section of the VCC and removes confusion between buildings that are a threat to public safety and unsafe buildings or structures.

B202-21	200	Correlates definitions in the IBC with the NFIP.
B310.6-21	30; 210	Provides clarification to the scoping provisions of the Virginia Residential Code.
B313.3-21	210	Oversight for Family Day Homes has been transferred from the Department of Social Services to the Department of Education. The proposal updates the code provisions with the appropriate licensing authority for these facilities.
B407.4-21	220	Removes a broken link to Section 1002.2 in the VCC.
B432-21	220	Provides the connection between the VCC and the IFC for Plant Processing or Extraction Facilities (IFC Chapter 39)
B706.1.1-21	230	Deletes the exception that states party walls and fire walls on lot lines dividing certain buildings for ownership purposes are not required.
B907.5.2.3.2-21	240	Editorial change that adds the words "or dwelling units" to the table so that it can be properly utilized as charged by the section.
B918.1.1-21	240	Removes the antiquated language of "radiating cable" and replaces it with the term "cabling".
B1020.1-21	245	Separates I-1 and I-3 occupancies in the Corridor Fire-Resistance Rating Table and provides specific ratings for each occupancy based on the presence of a sprinkler system.
B1026.2-21	245	Corrects an incorrect reference in the VCC from Section 1019.3, Item 4 to 712.1.13.
B1103.2.15-21	250	Language clean-up with revised wording to make it a complete sentence.
B1112.1-21	250	Deletes an exception that does not require accessible parking spaces to be identified when there are four or fewer parking spaces.
B3005.4-21	330	Correlates the VA exceptions with the IBC requirements for fire service access elevators and occupant evacuation elevators.
B3006.1-21	330	Fixes several broken links to the requirements for elevator lobbies, in other parts of the code, by reinstating Section 3006.
B3008.1-21	330	Maintains the VA amendment limiting the applicability of occupant evacuation elevator (OEE) requirements to buildings over 420 feet in building height.
B3302.4-21	340	Clean up of Chapter 33, Fire Safety During Construction, to relocate construction provisions from the SFPC and correlate better with the SFPC and VEBC.
EC-C402.4-21	264	Removes the Virginia amendments to solar heat gain coefficients.
EC-C403.7.7-21	264	Corrects language to prohibit the use of dampers where grease ducts serving a Type 1 hood are installed.
M403.3.1.1-21	310	Corrects a 2018 error related to ventilation rates for general doctor or dentist offices and brings forward the original intent.
M1101.2-21	310	Removes refrigeration fittings from table 1101.2, which is included in Section 1107.5

M1101.2(2)-21	310	Removes refrigeration fittings from table 1101.2, which is included in Section 1107.5 and adds referenced standards refrigeration equipment.
M1101.2.1-21	310	Incorporates new reference standards for Group A2L, A2, A3, and B1 refrigerants.
M1101.7-21	310	Provides provisions for the changing of refrigerant from one safety class to another.
M1103.1-21	310	Updates the refrigerant table with new refrigerants added to ASHRAE Standard 34.
M1104.3.1-21	310	Requires high probability systems used for human comfort to use Group A1 or A2L refrigerant and restricts group A3 and B3 refrigerants to laboratories and industrial occupancies.
M1104.3.1(2)-21	310	Provides exceptions to the prohibition of group A2, A3, B2, and B3 refrigerants in high probability systems
M1106.3-21	310	Revises the section from "flammable refrigerants" to specific classes of refrigerant: "Class 2 and 3 refrigerants"
M1106.4-21 PT 1	310	Correlates the machinery room requirements in the International Mechanical Code with the 2019 edition of ASHRAE 15.
M1106.4-21 PT 2	310	Deletes the ventilation system activation provisions for machinery rooms using Group A2L refrigerant.
M-Chapter 15-21	310	Updates UL 60335-2-89 to the most recent version which was published in October of 2021.
P605.15.2-21	320, 210	Revises P2906.9.1.2 IRC and 605.15.2 IPC to include one-step solvent cement in the color green, which has already been approved in the 2024 IPC.
RB324.6.2-21	210	Clarifies the access requirements where PV systems are installed on roofs.
RM1404.1-21	210	Requires refrigeration cooling equipment to comply with applicable UL standards.
RM1411-21	210	Mandates a UL listing for any equipment using A2L refrigerant and field installed items to be installed per the manufacturer's installation instructions.
EB102.2.1-21	410; 420	Clarifies when to bypass the VEBC and when to use the VEBC when an I-2 or I-3 is involved.
EB103.9-21	420	Requires elevation certificates to be prepared by a certified land surveyor or registered professional engineer licensed in Virginia.
EB202-21	430	Removes accessibility as a trigger to determine change of occupancy since there is no change of occupancy driven accessibility requirements.
EB304.3.1-21	431	Provides a pointer to the VRC requirements for operational constraints of emergency escape and rescue openings.
EB404.3-21	432.5	Clarifies how to apply the accessibility provisions to existing toilet facilities and drinking fountains.
EB603.6-21	433.3	Deletes Section 603.6 to remove the potential for conflicts with the exception to Section 710.1.

EB701.1-21	433.5; 440	Continuation of the clean-up editorial work that has been done each cycle to Chapter 14.
EB707.2-21	433.5	Removes the exception to 707.2 of the VEBC as it would never be applicable.
EB1201.7-21	438	Deletes Section 1201.7 to be congruent with the VPC.
EB1209.1-21	438	Clean up of the construction safeguards provisions to better correlate with the VCC and SFPC.
PM101.1-21	450	Revises the short title of the Virginia Maintenance Code (VMC) to the Virginia Property Maintenance Code (VPMC) to resolve the historical and practical issue of confusion with the Virginia Mechanical Code (VMC).
PM103.2.3-21	470	Clarifies that a tenant's responsibility is limited and protected under the Virginia Residential Landlord and Tenant Act.
PM505.3-21	530	Deletes construction and construction inspection provisions as they are not within the scope of the Virginia Maintenance Code.
PM606.1-21	540	Clarifies the applicability of Appendix N of ASME A17.1.
PM703.2-21	545	Deletes invalid provisions in Section 703.2 and 703.7 and revises 703.3 and 703.8 to remove invalid retrofit provisions.
PM704.1.1-21	545	Revises Section 704.1.1 to reference the applicable building code regarding how existing fire protection systems are to be maintained; deletes the alteration provisions of 704.1.
PM704.2-21	545	Removes the inspection, testing and maintenance of fire protection systems from the VMC since they are already in the SFPC.
PM704.3-21	545	Removes provisions from the IPMC and VMC that fall under the jurisdiction of the fire official and belong in the SFPC.
PM704.4-21	545	Removes provisions from the IPMC and VMC that fall under the jurisdiction of the fire official and belong in the SFPC
PM704.5-21	545	Removes provisions from the IPMC and VMC that fall under the jurisdiction of the fire official and belong in the SFPC
PM705.1-21	545	Removes invalid retrofit provisions in the IPMC
B1020.2.1-21	245	Removes an invalid reference to deleted elevator hoistway provisions.
B1010.2.8-21 (USBC Portion)	80; 100; 200; 245; 250	Intends to comply with SB 333 and HB 670 by adding "public buildings" to the list of uses/occupancies already allowed to be provided with ESH.
RB326-21	210	Removes the habitable attic technical provisions from the definition of Habitable Attic and places the requirements in the body of the code, with the intent of maintaining the existing Virginia technical amendments.
PM103.2-21	470; 485; 490; 510	Simplifies the unsafe building provisions of the VMC