

**Approval of Findings of a Periodic Review of the Impounding Structure Regulations
(4VAC50-20)**

§ 2.2-4007.1. Regulatory flexibility for small businesses; periodic review of regulations.

D. In addition to other requirements of §2.2-4017, all regulations shall be reviewed every four years to determine whether they should be continued without change or be amended or repealed, consistent with the stated objectives of applicable law, to minimize the economic impact on small businesses in a manner consistent with the stated objectives of applicable law. When a regulation has undergone a comprehensive review as part of a regulatory action that included the solicitation of public comment on the regulation, a periodic review shall not be required until four years after the effective date of the regulatory action.

E. The regulatory review required by this section shall include consideration of:

1. The continued need for the rule;
2. The nature of complaints or comments received concerning the regulation from the public;
3. The complexity of the regulation;
4. The extent to which the regulation overlaps, duplicates, or conflicts with federal or state law or regulation; and
5. The length of time since the regulation has been evaluated or the degree to which technology, economic conditions, or other factors have changed in the area affected by the regulation.

F. Prior to commencement of the regulatory review required by subsection D, the agency shall publish a notice of the review in the Virginia Register of Regulations and post the notice on the Virginia Regulatory Town Hall. The agency shall provide a minimum of 21 days for public comment after publication of the notice. No later than 120 days after close of the public comment period, the agency shall publish a report of the findings of the regulatory review in the Virginia Register of Regulations and post the report on the Virginia Regulatory Town Hall.

Recommended Motion:

The Virginia Soil and Water Conservation Board approves the report of findings on the periodic review conducted for the Impounding Structure regulations (4VAC50-20) and directs the Department to post the report on the Virginia Regulatory Town Hall for publication in the Virginia Register. The Board authorizes the Department to coordinate, as necessary, with the Office of Regulatory Management to develop any additional documents, including the economic review form, needed to file the results of this periodic review.



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Periodic Review and Small Business Impact Review Report of Findings

Agency name	Virginia Soil and Water Conservation Board
Virginia Administrative Code (VAC) Chapter citation(s)	4VAC50-20
VAC Chapter title(s)	Impounding Structure Regulations
Date this document prepared	March 27, 2024

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Order 19 (2022) (EO 19), any instructions or procedures issued by the Office of Regulatory Management (ORM) or the Department of Planning and Budget (DPB) pursuant to EO 19, the Regulations for Filing and Publishing Agency Regulations (1 VAC 7-10), and the *Form and Style Requirements for the Virginia Register of Regulations and Virginia Administrative Code*.

Acronyms and Definitions

Define all acronyms used in this Report, and any technical terms that are not also defined in the "Definitions" section of the regulation.

There are no acronyms used in this report.

Legal Basis

Identify (1) the promulgating agency, and (2) the state and/or federal legal authority for the regulatory change, including the most relevant citations to the Code of Virginia or Acts of Assembly chapter number(s), if applicable. Your citation must include a specific provision, if any, authorizing the promulgating agency to regulate this specific subject or program, as well as a reference to the agency's overall regulatory authority.

The Dam Safety Act is established in §10.1-604 et seq. of the Code of Virginia. The Virginia Soil and Water Conservation Board is designated as the promulgating regulatory authority in §10.1-605. Section

10.1-605 of the Code of Virginia requires the Board to "adopt regulations to ensure that impounding structures in the Commonwealth are properly and safely constructed, maintained, and operated". Section 10.1-604.1 authorizes the Board to adopt "regulations in accordance with §10.1-605 to establish a simplified methodology for dam break inundation zone analysis.

Section 10.1-605.1 authorizes the Board to delegate to the Director or his designee any of the powers and duties vested in the Board by the article, except the adoption and promulgation of regulations. In §10.1-605.2, the Board is required to adopt regulations that consider the impact of downstream limited-use or private roadways with low traffic volume and low public safety risk on the determination of the hazard potential classification of an impounding structure. Section 10.1-605.3 allows the Board to develop a general permit for the regulations of low hazard potential impounding structures in accordance with §10.1-605.

Alternatives to Regulation

Describe any viable alternatives for achieving the purpose of the regulation that were considered as part of the periodic review. Include an explanation of why such alternatives were rejected and why this regulation is the least burdensome alternative available for achieving its purpose.

There are no alternatives to adopting regulations to implement the Dam Safety Act (§10.1-604 et seq.). Section 10.1-605 of the Code of Virginia requires the Board to "adopt regulations to ensure that impounding structures in the Commonwealth are properly and safely constructed, maintained, and operated". Additionally, §§10.1-605.2 and 10.1-605.3 either require or allow the Board to adopt regulations to address certain issues that may impact impounding structures.

Public Comment

Summarize all comments received during the public comment period following the publication of the Notice of Periodic Review, and provide the agency's response. Be sure to include all comments submitted: including those received on Town Hall, in a public hearing, or submitted directly to the agency. Indicate if an informal advisory group was formed for purposes of assisting in the periodic review.

Commenter	Comment	Agency response
David Hammond	New stormwater ponds must be built to the more stringent standards for permanent ponds, even if it will initially serve as an erosion and sediment pond during construction.	There are specific size thresholds established for impounding structures established in §10.1-604 of the <i>Code of Virginia</i> . A stormwater pond that meets the size thresholds will be regulated under the Dam Safety Act. As the size thresholds are established in law, it is outside the scope of a regulatory action to amend these thresholds. A review of the Dam Safety Act will be conducted after the review of these regulations.
J. Scott Eutsler	Would it not be appropriate to consider that a dam engineered and constructed by the U.S. Army Corps of Engineers...be accorded "grandfathered" status and not subject to the current regulations?	There are specific exemptions provided for certain dams in the Dam Safety Act (§10.1-604 et seq. of the <i>Code of Virginia</i>). Those exemptions include provisions for certain dams that are used primarily for agricultural purposes; dams regulated by the State Corporation Commission or federal agencies,

		and dams that are approved pursuant to §§ 45.2-618 or 45.2-1301. As these exemptions are established in law it is outside the scope of a regulatory action to exempt dams from this regulation entirely. A review of the Dam Safety Act will be conducted after the review of these regulations.
J. Scott Eutsler	It seems that dam height being used as the determining factor for regulation is inherently flawed...we have a properly functioning spillway which handled the 13+ inches of rain we had during hurricane Jeanne without issue...the water level never neared the top of the dam.	There are specific size thresholds established for impounding structures established in §10.1-604 of the <i>Code of Virginia</i> . Dams that meet the height and volume thresholds are regulated under the Dam Safety Act. As the size thresholds are established in law, it is outside the scope of a regulatory action to amend these thresholds.- A review of the Dam Safety Act will be conducted after the review of these regulations.
Rowen Perry	The state is painting very broad strokes with the current DCR programs to build private dams into compliance that do not adequately capture the nuance of these old and varied dams. It feels appropriate that state legislation regarding dam safety should consider and rehabilitate existing dams differently that dams built after the legislation is passed.	The Dam Safety Act (§10.1-604 et seq. of the <i>Code of Virginia</i>) does have specific allowances for spillways of dams built prior to July 2010. However, as other minimum requirements for dams are established in law for all dams of regulatory size, it is outside the scope of a regulatory action to provide exemptions for existing dams. A review of the Dam Safety Act will be conducted after the review of these regulations.
Michael Tessieri	While I am sympathetic to DCR's obligations for dam safety, I do think the probable maximum precipitation assumptions should be reasonable. I think 28.9 inches in a 6 hour period is not reasonable, nor probable.	The Probable Maximum Precipitation (PMP) values were established in an analysis conducted in 2015. The analysis is based on rainfall events that have occurred in Virginia and neighboring states.
Fred M. Thompson; Lake Matthew and Dam	The DCR design guidelines seem far beyond what is reasonable in theoretical rainfall magnitudes, in mandated dam/spillway/remediations, as well as periodical maintenance observations and records...I implore you to find more realistic design parameters to address DCR's dam safety.	Virginia's Dam Safety Act (§10.1-604 et seq. of the <i>Code of Virginia</i>) establishes certain requirements for all dams regulated under it including requirements for dam break inundation zone mapping, determination of hazard classifications, and safety inspections. Many of the design standards in the regulations mirror standards in neighboring states. The Board does recognize that there are sections of the regulations that need amendments and clarifications. The Board intends to authorize the Department to initiate a regulatory action to propose amendments on how to address roadways on or below an impounding structure for hazard potential classifications; the incremental damage analysis process; the potential expansion of special criteria low

		hazard dams; and simplifying the emergency preparedness plan requirements.
Steve Lohr	Funding should be from the Commonwealth, not the landowner.	Funding for dam owners in the forms of grants and loans is available from the Dam Safety, Flood Prevention and Protection Assistance Fund. This Fund provides up to 50% of the cost for necessary engineering studies and plans; owners may also apply for funding to rehabilitate existing dams to meet the statutory and regulatory requirements. The Dam Safety Act establishes the legal and financial responsibility for a dam on the dam owner; it is outside the scope of a regulatory action to amend these responsibilities.
Steve Lohr	Standards of safety, such as rainfall amounts, are unrealistic and need to be corrected.	The Probable Maximum Precipitation (PMP) values were established in an analysis conducted in 2015. The analysis is based on rainfall events that have occurred in Virginia and neighboring states.
Steve Lohr	Risk of dam failures needs to be revised. I believe four deaths have been attributed to dam failure in recent years. Highway deaths were over 1,000 just for 2022.	At this time, the Board does not intend to amend the current standards related to loss of life in determining the hazard potential classification of a dam. However, the Board does recognize that there are sections of the regulations that need amendments and clarifications. The Board intends to authorize the Department to initiate at a regulatory action to propose amendments on how to address roadways on or below an impounding structure for hazard potential classifications; the incremental damage analysis process; the potential expansion of special criteria low hazard dams; and simplifying the emergency preparedness plan requirements.
Curt Heidel; Blue Ridge Shores	We wanted to apply for the DCR dam safety grant but were denied since we are a significant hazard dam, not high, or un-rated.	Significant hazard dams were eligible to receive funding from the most recent Dam Safety, Flood Prevention and Protection Assistance Fund (Fund). There was up to \$2,000,000 available for privately owned dams to assist with developing engineering documents or with rehabilitation or removal of the dam. The policies and procedures used to administer the Fund are not governed by these regulations; it is outside the scope of a regulatory action on these regulations to amend those policies and procedures.
Anne McClung	My main request is that violations of these laws result in meaningful repercussions to insure their proper maintenance of the lake and dam...the laws are there but it seems they suffer little punishment if violated.	The Dam Safety Act (§10.1-604 et seq. of the <i>Code of Virginia</i>) establishes the procedures and mechanisms that may be used when a dam owner fails to comply with the law and attendant regulations. It is outside the scope of a regulatory action to expand the enforcement mechanisms established by the

		Act. A review of the Dam Safety Act will be conducted after the review of these regulations.
Don Rissmeyer, AMT	Recent comments on dam break inundation zone studies seem to extend beyond the regulations to try and enforce the most stringent conditions possible on dam owners.	The Board and Department have been working to standardize interpretations, processes, and policies across the state. The Board will continue to work to clearly differentiate between requirements of the regulations and optional processes or procedures set out in guidance documents.
Don Rissmeyer, AMT	Dam owners have complained about how difficult the grant reimbursement program has become.	The policies and procedures used to administer the Fund are not governed by these regulations; it is outside the scope of a regulatory action on these regulations. to amend those policies and procedures.
Don Rissmeyer, AMT	Some concerns have been raised about road embankments being classified as dams by other dam owners...would welcome an opportunity to talk about how we make dams and roadway embankments safer.	The Board intends to authorize the Department to initiate a regulatory action to propose amendments on how to address roadways on or below an impounding structure for hazard potential classifications; the incremental damage analysis process; the potential expansion of special criteria low hazard dams; and simplifying the emergency preparedness plan requirements.
Christopher Herrington, Fairfax County	Section 4VAC50-20-53 – add language to clarify that only the incremental losses resulting from a dam failure i.e., the difference between losses with and without a dam failure, need to be considered for insurance valuation. In order to clearly avoid any misinterpretation of the statement above, additional clarification should be provided in the regulations and guidance documents.	This comment addresses the provisions established in §10.1-605 of the <i>Code of Virginia</i> . As those provisions mirror the language established in statute, the Board has little discretion in amending the language. A review of the Dam Safety Act will be conducted after the review of these regulations.
Christopher Herrington, Fairfax County	Sections 4VAC50-20-50C and 4VAC50-20-240C –Recommend adding language to eliminate the use of criteria that is not consistent or does not accurately or appropriately reflect modeled conditions.	At this time, the Board does not intend to amend these sections of the regulations. However, the Board recognizes that there are additional sections of the regulations that need amendments and clarifications. At this time, the Board intends to authorize the Department to initiate a regulatory action to propose amendments on how to address roadways on or below an impounding structure for hazard potential classifications; the incremental damage analysis process; the potential expansion of special criteria low hazard dams; and simplifying the emergency preparedness plan requirements.
Christopher Herrington, Fairfax County	4VAC50-20-54-E-1 – recommend that language be added to allow jurisdictions that have regulated floodplains to terminate the breach once it enters a mapped floodplain	The Board recognizes that there are additional sections of the regulations that need amendments and clarifications. At this time, the Board intends to authorize the Department to initiate a regulatory action to

	if the dam owner can show that there are no structures in the downstream floodplain that could potentially be impacted by a sunny day breach.	propose amendments on how to address roadways on or below an impounding structure for hazard potential classifications; the incremental damage analysis process; the potential expansion of special criteria low hazard dams; and simplifying the emergency preparedness plan requirements.
Christopher Herrington, Fairfax County	Guidance document on dam break inundation zone modeling and mapping procedures: recommend that language be added that requires the same storm duration event be used to analyze the dam and downstream watershed inflows; guidance document be updated to allow procedures developed by the National Weather Service for obtaining aerial precipitation values for a given duration and return period.	As this comment references clarification to a guidance document, it is outside the scope of this periodic review and amendments to the regulations. However, the Board will consider this recommendation when the guidance document is next reviewed.
Christopher Herrington, Fairfax County	We recommend language and specific terminology be added to the regulations or guidance documents that clearly differentiate what procedures can be used to lower the potential hazard classification of an impounding structure and what can be used to lower the SDF once the hazard class is established.	The Board recognizes that there are sections of the regulations that need amendments and clarifications. The Board intends to authorize the Department to initiate a regulatory action to propose amendments on how to address roadways on or below an impounding structure for hazard potential classifications; the incremental damage analysis process; the potential expansion of special criteria low hazard dams; and simplifying the emergency preparedness plan requirements.
Christopher Herrington, Fairfax County	We recommend defining the terms "should", "may", "shall", and "must". This will ensure the DCR regional dam safety engineers and Professional Engineers of Record have a common understanding of these terms and allow clear differentiation between mandatory and discretionary requirements.	The Board and Department have been working to standardize interpretations, processes, and policies across the state. The Board will continue to work to clearly differentiate between requirements of the regulations and optional processes or procedures set out in guidance documents.
Christopher Herrington, Fairfax County	We request that the tree-clearing limits for these facilities [impoundments that act as dry ponds formed by roadway embankments] be established based on the unique characteristics of the facility, including a geotechnical evaluation/study when necessary. We also request that the regulations better define methods for establishing the limits of the embankment for these structures, as they may have considerable roadway embankment lengths.	Section 10.1-609.2 of the <i>Code of Virginia</i> prohibits the growth of trees and other woody vegetation on dams and requires the removal of any such vegetation from the structures associated with the dam. As these requirements are established in statute, it is outside the scope of a regulatory action to provide exemptions from this requirement. A review of the Dam Safety Act will be conducted after the review of these regulations.

Gus Hollberg, Wiley Wilson	Please clarify the flood events required for the emergency action plan and inundation mapping...We struggled with showing the information required by the guidance document...for each impacted structure and providing clear maps for the county's emergency response team.	The Board intends to authorize the Department to initiate a regulatory action to propose amendments on how to address roadways on or below an impounding structure for hazard potential classifications; the incremental damage analysis process; the potential expansion of special criteria low hazard dams; and simplifying the emergency preparedness plan requirements. However, much of this comment appears to reference clarification to a guidance document, which is outside the scope of this periodic review and amendments to the regulations. The Board will consider this recommendation when the guidance document is next reviewed.
Gus Hollberg, Wiley Wilson	It may be more useful to the emergency response team to show the flooding; arrival times from the Stage 1, Stage 2, and Stage 3 staff gauge water surface elevations in the emergency action plan rather than the spillway design flood, spillway design flood with dam break, and probable maximum flood.	At this time, the Board does not intend to amend these sections of the regulations. However, the Board recognizes that there are sections of the regulations that need amendments and clarifications. The Board intends to authorize the Department to initiate a regulatory action to propose amendments on how to address roadways on or below an impounding structure for hazard potential classifications; the incremental damage analysis process; the potential expansion of special criteria low hazard dams; and simplifying the emergency preparedness plan requirements.
Gus Hollberg, Wiley Wilson	Can DCR standardize guidance on utilizing 2D unsteady models versus 1D unsteady models?	As this comment references clarification to a guidance document, it is outside the scope of this periodic review and amendments to the regulations. However, the Board will consider this recommendation when the guidance document is next reviewed.
David Krisnitski, AMT	Topics that have been subjected to this [reinterpretations] which have caused undue burden to Virginia dam owners include: bottom drain installations; dam break inundation zone maps required before an alternation permit for needed maintenance would be issued; incremental damage analysis for spillway reduction...; forced use of the online Dam Safety Information System; changing the grants to no longer allow any retroactive work without notice; excessive administrative requirements for the grant applications and even more so for obtaining disbursements; and how to handle multiple owners of dams.	The Board intends to authorize the Department to initiate a regulatory action to propose amendments on how to address roadways on or below an impounding structure for hazard potential classifications; the incremental damage analysis process; the potential expansion of special criteria low hazard dams; and simplifying the emergency preparedness plan requirements. The policies and procedures used to administer the Fund are not governed by these regulations; it is outside the scope of a regulatory action on these regulations.

Effectiveness

Pursuant to § 2.2-4017 of the Code of Virginia, indicate whether the regulation meets the criteria set out in the ORM procedures, including why the regulation is (a) necessary for the protection of public health, safety, and welfare, and (b) is clearly written and easily understandable.

The regulation meets the criteria set out in Executive Order 19 (2022) as it is necessary for the protection of public health, safety and welfare of the citizens and visitors to the Commonwealth. The Board recognizes that there are sections of the regulations that need amendments and clarifications. Therefore, the Board will undertake a regulatory action in response to comments received. .

Decision

Explain the basis for the promulgating agency's decision (retain the regulation as is without making changes, amend the regulation, or repeal the regulation).

If the result of the periodic review is to retain the regulation as is, complete the ORM Economic Impact form.

The Board recognizes that there are sections of the regulations that need amendments and clarifications. The Board is undertaking a regulatory action in response to comments received during a periodic review, as well as recognizing that amendments and clarifications may be needed in certain areas of the regulation. Specifically, the Board authorized this regulatory action to consider concerns related to: (i) roadways on or below an impounding structure for hazard potential classifications; (ii) the incremental damage analysis process; (iii) the potential expansion of special criteria low hazard dams; and (iv) simplifying the emergency preparedness plan requirements.

Small Business Impact

As required by § 2.2-4007.1 E and F of the Code of Virginia, discuss the agency's consideration of: (1) the continued need for the regulation; (2) the nature of complaints or comments received concerning the regulation; (3) the complexity of the regulation; (4) the extent to which the regulation overlaps, duplicates, or conflicts with federal or state law or regulation; and (5) the length of time since the regulation has been evaluated or the degree to which technology, economic conditions, or other factors have changed in the area affected by the regulation. Also, discuss why the agency's decision, consistent with applicable law, will minimize the economic impact of regulations on small businesses.

There is a continued need for the regulations as they are mandated by law. No public comments were received that indicated their suggested changes would minimize the impact of the regulation on small business. The regulations do not have an adverse impact on small businesses and may have provide opportunities for small businesses in the engineering, construction, and environmental services industries.

The regulations are technical in nature and, because of that technicality, can be difficult to understand. The Board recognizes that certain sections of the regulations are in need of clarification and will initiate at least one regulatory action to address that need. The regulations do not overlap, duplicate or conflict with any known federal or state law or regulation.