

**Virginia Department of Conservation and Recreation
Public Hearing on Proposed Impounding Structure Regulations
(4 VAC 50-20-10 et seq.)**

October 11, 2007 in Verona, Virginia

Meeting Officer: Christine Watlington
Policy, Planning and Budget Analyst
Department of Conservation and Recreation

Opening:

Ms. Watlington: Good Evening, I would like to call this public hearing on the Virginia Soil and Water Conservation Board's proposed Impounding Structure Regulations to order. I am Christine Watlington Policy, Planning and Budget Analyst for the Department of Conservation and Recreation. I will be serving as the meeting officer this evening. I welcome you to this hearing.

I would like to thank Augusta County for allowing us to use this facility.

With me tonight I have Bill Browning, Division Director for DCR's Division of Dam Safety and Floodplain Management. Also with me are Jim Robinson, DCR's Dam Safety Program Manager, and Michael Fletcher, DCR's Board and Constituent Services Liaison. Michael will be audio taping our meeting and developing a set of minutes of the comments received tonight. Also here is Ryan Brown, our Policy and Planning Assistant Director.

I hope that all of you have registered on our attendance list. If not, please do so. Those wishing to speak should note that on the attendance list. Please also make sure that your contact information, including your name and address, is legible and complete as we will be utilizing it to keep you informed on the status of the regulatory action.

Purpose of the public hearing:

The purpose of this hearing is to receive input from interested citizens on the Board's proposed Virginia Impounding Structure Regulations during the 60-day public comment period which opened on August 20th [Vol 23 Issue 25] and closes on October 19th. These regulations not only impact dam owners but also impact the growing number of Virginians living downstream from dams.

The Department used the participatory approach to develop the proposal. Following the publication of the Notice of Intended Regulatory Action regarding these regulations in December of 2005 and the public comment period on the NOIRA, the Department formed a Technical Advisory Committee to assist in the development of the proposed regulations. The TAC included representatives from localities owning dams, owners of both large and small private dams, Soil and Water Conservation Districts, engineers, and federal and state regulators to name

a few. The 28-member TAC met seven times between the months of May and October 2006. Following the completion of the TAC's work, the Soil and Water Conservation Board proposed these regulations at its meeting held on November 15, 2006. Copies of the proposed regulations are located on the table near the attendance list.

This concludes my introductory remarks. I would like to introduce Ryan Brown, DCR's Policy and Planning Assistant Director, who will explain in more detail what the proposed regulations do.

Mr. Brown: Thank you Ms. Watlington.

The Board's regulatory proposal has been developed to support and advance the goals of the Virginia Dam Safety Act, contained in § 10.1-604 et seq. of the Code of Virginia, which gives the Board the authority to adopt regulations to protect the health, safety, and welfare of citizens through ensuring that all regulated dams are properly and safely constructed, maintained, and operated.

Key provisions of this proposed regulatory action include the following:

1) First, a revision of the dam classification system found in 4VAC50-20-40 from four categories (Class I, II, III, and IV) to three hazard potential classifications (High, Significant, and Low). This conforms the classification categories contained in the regulations to those used by federal agencies and many other states.

2) Second, a specification that the Spillway Design Flood requirements found in Table 1 of 4VAC50-20-50 are applicable to all dams, and not just those constructed after July of 1982, as the currently-effective regulations state. In addition, Table 1 is revised to:

- Reflect the revised dam classifications
- Update spillway design requirements to enhance public safety and to move towards federal standards.
- Eliminate spillway design flood ranges within categories, which may result in inconsistency in application.
- Require that the spillway of all high-hazard dams be engineered to pass the full Probable Maximum Flood.
- Specify minimum thresholds for incremental damage assessments, which may be used to lower the required spillway design floods for dams.

3) Third, the creation of a new section, 4VAC50-20-52, that allows for the potential reduction of the spillway design flood requirement through an incremental damage assessment where the breach of a dam would not significantly worsen downstream flooding. This had previously been applicable only to dams constructed prior to July 1982, but now would be applicable to all eligible dams.

4) Fourth, the creation of a new section, 4VAC50-20-54, that sets out dam break inundation zone mapping requirements for all dams to be used in hazard potential classification determinations

and in the development of Emergency Action Plans for High and Significant Hazard Potential dams.

5) Fifth, a specification in a new section, 4VAC50-20-58, that for each Operation and Maintenance certificate (Regular or Conditional) issued, the impounding structure owner shall send a copy of the certificate to the appropriate local government(s) with planning and zoning responsibilities.

6) Sixth, the development of language in a new section, 4VAC50-20-125, establishing a delayed effective date for certain dams determined to have an adequate spillway capacity prior to the effective date of these regulations but that would require modifications due to changes in the regulations. This delayed effective date section would allow upgrades to these dams to be phased in over an 8 to 11 year period.

7) Seventh, the creation of a new section, 4VAC50-20-175, expanding emergency action plan requirements for High and Significant Hazard Potential dams. The plan would be developed and periodically tested in coordination with all entities, jurisdictions, and agencies that would be affected by a dam failure or that have statutory responsibilities for warning, evacuation, and post-flood actions.

8) Eighth, the creation of a new section, 4VAC50-20-177, establishing emergency preparedness plan requirements for each Low Hazard Potential dam. These plans contain lesser requirements than the Emergency Action Plans required for High and Significant Hazard Potential dams due to the reduced threat posed by Low Hazard Potential dams.

9) Ninth, the creation of a series of new sections that establish fees for the administration of the dam safety program. These include the following new sections:

- 4VAC 50-20-340 Authority to establish fees
- 4VAC 50-20-350 Fee Submittal Procedures
- 4VAC 50-20-360 Fee Exemptions
- 4VAC 50-20-370 Construction Permit Application Fees
- 4VAC 50-20-380 Regular Operation and Maintenance Certificate Application Fees
- 4VAC 50-20-390 Conditional Operation and Maintenance Certificate Application Fees
- 4VAC 50-20-400 Incremental Damage Analysis Review Fees

10) Tenth, the removal of all forms currently incorporated by reference and incorporation of required elements of the forms into the regulations. Recommended forms will still be available. This will allow for the modification and improvement of forms without going through a lengthy regulatory action.

11) Eleventh, the provision of definitions or modifications to definitions in section 4VAC50-20-30 for the terms “Agricultural purpose”, “Agricultural purpose dam”, “Alteration”, “Construction”, “Dam break inundation zone”, “Department”, “Drill”, “Emergency Action Plan or EAP”, “Emergency Action Plan Exercise”, “Emergency Preparedness Plan”, “Freeboard”, “Height”, “Spillway”, “Stage I condition”, “Stage II condition”, “Stage III condition”, “Sunny Day Dam Failure”, “Tabletop Exercise”, and “Watercourse”.

12) Twelfth, updates necessary to reorganize, clarify, and expand multiple sections related to permits and the repealing of sections that are incorporated into the reorganized sections. These updates are included in:

- **4VAC50-20-70** Construction permits.
- **4VAC50-20-80** Alterations permits.
- **4VAC50-20-90** Transfer of permits.
- **4VAC50-20-105** Regular Operation and Maintenance Certificates.
- **4VAC50-20-150** Conditional Operation and Maintenance Certificate.
- **4VAC50-20-155** Extension of Operation and Maintenance Certificates.
- **4VAC50-20-160** Additional operation and maintenance requirements.

13) Thirteenth, the creation of a new section, 4VAC50-20-165, stating that dams operated primarily for agricultural purposes which are less than 25 feet in height or which create a maximum impoundment capacity smaller than 100 acre-feet are exempt from the regulations.

14) Fourteenth, and finally, updates to section 4VAC50-20-180 related to inspections, section 4VAC50-20-200 related to enforcement, and section 4VAC50-20-220 related to unsafe conditions. These updates reflect changes in the Code of Virginia made during the 2006 General Assembly.

This concludes the summary of key provisions contained in the proposed regulations.

Ms. Watlington: Thank you Mr. Brown.

Before we begin receiving testimony on the proposed regulations, I would like to stress that this is an information-gathering meeting. Everyone wishing to speak will be heard. If necessary, we may ask speakers questions concerning their testimony or to request additional information concerning a subject believed to be important to the process in order to help the clarify and properly capture your comments. Staff will be available after this hearing to take any individual questions you may have.

We will now begin the public comment portion of the hearing. When I call your name, please come to the front and use the podium. Please state your name and whom you represent. If you have an extra copy of your comments, we will be happy to accept it.

Public Comment Portion

Lisa Cahill

My name is Lisa Cahill and my company is Watershed Services. We do dam repairs, so we've crawled through a great number of the dams in Virginia and have seen a lot of problems that are maybe not obvious from the surface.

We've also been involved in the Technical Advisory Committee for the regulations. I can tell you that DCR has done a magnificent job of creating an open forum where your comments are valued and welcome.

They seemed to specifically compose the TAC of people who represented each group and seemed recognize they are charged with the responsibility but don't have the knowledge. They are very welcoming of comments from dam owners.

Even if you don't speak at this session, please participate. Please go online and leave your comments.

Regarding the proposed regulations I have just a few comments.

Line 114 references the crest of the lowest un-gated outlet. As I was first reading the regs., seeing the world crest made me think of the spillway, like the emergency spillway, which would be appropriate. But as I read further, I felt that could be construed to be the top of the riser or structure which would cause that reference to be normal pool height which would probably not be appropriate. That term is not specifically defined in the definitions section and I think a definition would be very helpful.

Some other definitions seem to be needed.

Line 160 "serious economic damage", Line 166 "appreciable economic damage," and Line 174 "minimal economic damage."

I'm not sure the right way to do that. I'm sure that dollar values might not be appropriate. But some guidance needs to be there because what you might consider minimal economic damage I might consider major economic damage, depending on whether it's my driveway I have to put back or whatever.

Same thing for primary and secondary utility. I'm not absolutely certain what a secondary utility is unless we're talking size of people serviced by a particular utility. And if that's the case, then define it that way.

The roads also seem to need some definition to me. Major public roads, public roads and secondary public roads are what are listed in the high significant and low hazard classification. I think in that case seeing that DCR is not in the road business, but we have a very good group that is, the use of VDOT definitions for those roads would be appropriate. I know that they have maps for each county where they specifically say which roads are secondary, which roads are primary. So that could be useful.

Thank you.

Charles Simmons

I'm Charlie Simmons with the Shenandoah Valley SWCD. Most of what I have here are questions. We'll submit our concerns and our thoughts at a later time. I will get with you after the meeting regarding specific questions.

Ms. Watlington: That completes the list of those individuals who signed up to speak. Are there other individuals who would wish to comment or leave written remarks?

Mrs. Winters: Will you answer questions now?

Mr. Brown: You can raise them since we're at the end of the list. Questions may be best to save for after the meeting for some of our technical staff, but if you would like you can put them out there.

Mrs. Winters: You don't give the difference between the definitions of impoundment structure and dam. Do you use them interchangeably?

Ms. Watlington: For the most part yes.

Mrs. Winters: So, what's the difference? Is there a difference at all? Why don't you use just one word?

Mr. Brown: The Code of Virginia uses the terms interchangeably and with the same definition intended. Your comment is well taken from an editorial standpoint. It certainly wouldn't hurt to go through and pick one term and stick to that. I don't think it has any substantive effect on the regulations.

Mrs. Winters: One of the dams in Augusta County that they are just upgrading right now. It's over a million-dollar upgrade, only because there has been building in the inundation zone below it. It's a flood control dam and it seems to me that we ought to work harder to get Virginia to restrict building in the inundation zone.

We certainly should require builders and developers to tell people that they might be buying in an inundation zone. It seems to me that an inundation zone is similar to a flood plain or as bad as a flood plain. FEMA puts restrictions on the kind of building you can put in a flood plain and where in the flood plain you can put it. It seems to me there ought to be more restrictions on building in an inundation zone.

I know that Virginia is very strong on property rights. But I think putting all the burden on the dam owners and no burden on the owner in the inundation zone is not fair, especially if it's a dam that's a flood control dam that's for the better good.

I think it's really important that the people that choose to build in an inundation zone should have to build submarine quality homes or build in a higher level of the inundation zone or just pay for insurance to cover their damage.

Thank you.

Mr. Winters:

I want to join with the first speaker in saying that there needs to be a lot of additional definitions of key terms. I think that just as a general comment, the reader does not know with certainty what certain key words mean in the context.

Dam break and dam breach are two. I don't know if they mean the same.

Are we talking about a catastrophic break when we're talking about a dam break or are we talking about a gradual break erosion of the top where a release of water from the top of the impoundment structure is gradual?

There are also problems in terms of being able to understand some of the sentences that are written in the regulations. I've pointed these out in written comments. There are double or triple negatives in some of the sentences and that makes the reader wonder what is really meant.

Finally, I just wanted to ask in response to Ryan's comments at the beginning. The impetus behind this whole thing seems to be public safety. I don't understand what the difference in terms of the affect on public safety is between a dam with size category in Table 1 that is 49,999 acre-feet vs. one that is 50,000 acre-feet. There are different spillway design flood specifications in that table just because of that one-acre foot difference. I don't see the reason in terms of public safety. There may be one. So, it would be nice if you would provide an explanation of why that makes a difference.

Mr. Brown: I'll try to speak real briefly to that. I don't know that I'll completely answer your question, Mr. Winters. But I can tell you that size classifications are used by many states across the country. Anytime you set anything numerically, at some point there is a dividing line. The Department has developed dividing lines that we think are consistent with what other states have done and are probably consistent with what the current regulations do now.

For that situation where you are talking about where there is one foot dividing the two dams; I don't know how frequently that comes up, but that is something that needs to be considered. However, anytime you are going to set things by numbers you are going to wind up with that in one place or the other. It would be difficult to come up with a system that that doesn't have a dividing line somewhere.

Mr. Winters: I think you could get rid of the size category altogether and focus on the risk to public safety.

Dan Rublee

I don't quite have my act together. My name is Dan Rublee and I am the City Engineer for the City of Harrisonburg

I would like to tag on with the other folks that there is some vague wording in the classification standards. There are some words that could use some additional clarification.

I was trying to go through and try to see what line number some of the issues were on.

In regard to the inundation zone mapping, I guess, and I don't know if this is possible or not, but can there be some kind of legislation that forces or requires the jurisdictions in the inundation zones to be cooperative with dam owners in regard to determining land owners, property owners, planned land use and things like that.

I fear particularly, I guess, for private landowners who may be trying to get information out of the local government.

On Line 184, this discusses the present and planned land use in the dam break inundation zone to be used for determining classifications. I guess planned land use is a very undefined term. That could mean anything; something that needs to be constructed to something that's in a long-range construction plan that might change at some point in the future. I think there needs to be some kind of clarification as to what planned land use would mean. Are you talking about something in a plan designated for development that is agricultural now or are we talking about things that are already on the boards to be subdivided or have been subdivided and those types of issues.

Because that could make a huge difference in determining whether a dam needs to be improved now or in the future.

Line 239 talks about the PMF hydrographs used for looking at the analyses. It says that the hydrograph that creates the largest peak outflow is to be used. I guess I'm confused as to whether that is the largest peak flow from the hydrograph or is that actually the largest peak outflow after you've routed the hydrograph through the dam facility.

Line 285 discusses in the incremental damage analysis, water depths greater than two feet and over bank flow velocities greater than three feet per second shall be used to define conditions for unacceptable additional downstream threat. This is a question to clarify whether or not that is an additional two feet and additional three feet per second or is that those numbers in general. That could be better defined.

From here on I don't have the line numbers. I'm not sure I have the most up to date set of regulations that I had marked up.

Under Section 54, Dam Break inundation zone mapping, this discusses for determining hazard potential classifications a minimum of the following shall be provided and it talks about the different analyses that need to be done. Items two and three say a dam break analysis using a PMF with a failure and a dam break analysis using a PMF without a dam failure. I guess I understand that a dam break analysis doesn't necessarily infer that the dam actually breaks. Could you just put analysis there as opposed to dam break analysis? There is confusion as to how you can have a dam break analysis without a dam failure.

In the inundation map section, Paragraph "e" under EAP requirements, it says you are required to kept a list of downstream inundation zone property owners and occupants. I don't think that any jurisdiction can actually keep up with the occupants of specific structures. In the case of the dam that the City of Harrisonburg owns, a lot of the downstream property is renter occupied and not

owner occupied. It becomes quite a task to track down specific occupants. In our jurisdiction we have implemented our EAP through a reverse 911 calling system. That's been acceptable to the reviewers as far as our permitting goes.

So, I wonder if there can be some kind of language in that section that allows for alternatives to the specific listings of owners and occupants and things like that where technology can be better utilized and cut down on some of the leg work for the dam owners.

In Section 175, under the emergency action plan requirements it discusses the drills and exercises required in the EAP. I'd like to comment that, at least for the tabletop exercise, you're talking about pulling together quite a number of people who are very busy. I'd like to submit that rather than have that on a 2-year or 3-year basis that it would be done on the same cycle with the re-permitting phase. So it would be done on a six-year cycle as opposed to a three-year cycle, bringing state, local and possibly federal emergency personnel together. That's a difficult thing to pull off.

I don't have this information, but I read it somewhere that there are some cost projections on what the impacts of these regulations would be in terms of costs. I remember a \$250 million figure.

I have not personally done any specific analysis, because I don't have the knowledge to do it. But I'd like to ask and have it confirmed whether that figure is simply to bring current dams up to the standards in the regulations or whether there has been a projection of costs that will be necessary as downstream areas develop and as dams get reclassified due to downstream development.

I think that could be a huge cost that should be considered in those estimates.

Thank you.

Mr. Brown: Before we close the public comments, to answer your question, that number is based on what we know about today rather than the future. Both you and Mrs. Winters brought up the issue of downstream development from dams.

Just to let you know that the Department and the Board are not purposely ignoring that issue let me give you a few sentences' worth of explanation.

Currently under the Code of Virginia, the Board has the authority to regulate dams. We don't currently have regulatory authority over downstream development. However, that doesn't mean the Department and the Board are unaware of the issue.

To deal with those issues would require further action by the General Assembly. While I don't have anything of substance to put in your hands, the Department is well aware of this issue and is considering options on how to address that situation. We've had meetings with a few different groups to discuss what will be done.

I can't promise you that anything will be advanced this year or at any certain date in the future. We don't know how it will progress. But both the Department and the Board are aware of the

downstream issue and are actively working on coming up with ideas on how to address that, which ultimately will end up with possible legislative action.

Closing:

Ms. Watlington: A handout is provided on the table outlining the public comment submittal procedures I am about to cover and the dates and locations of the remaining public meetings.

Persons desiring to submit written comments pertaining to this notice and this meeting may do by mail, by the Internet, or by facsimile. Comments should be sent to the Regulatory Coordinator at: Virginia Department of Conservation and Recreation, 203 Governor Street, Suite 302, Richmond, Virginia 23219. Comments also may be submitted electronically to the Regulatory TownHall. Or comments may be faxed to the Regulatory Coordinator at: (804) 786-6141. All written comments must include the name and address of the commenter. In order to be considered, comments must be received by 5:00 PM on October 19, 2007.

I would also draw your attention to the copies of the Virginia Dam Safety, Flood Prevention and Protection Assistance Fund Loan and Grant Manual and the loan round announcement on the table. The Fund is authorized to make loans and grants for qualifying dam rehabilitation, dam break inundation zone mapping, and floodplain-related projects proposed by local governments and private entities. The Department of Conservation and Recreation in cooperation with the Virginia Resources Authority intends to open a loan round on December 1, 2007 with applications due by February 1, 2008. All funding will be awarded on a competitive scoring basis, and all qualifying loan applicants must additionally undergo a financial capability analysis by the Virginia Resources Authority prior to final loan approval.

With that announcement, I would like to thank each of you for attending this meeting and providing us with your views and comments. This meeting is now officially closed. Staff will be available afterwards to take any individual questions you may have.

I hope that everyone has a safe trip home.

Members of the Public Present

Lisa Cahill, Watershed Services
Dan Coleman, O'Brien & Gere
William Monroe, Augusta County Services Authority
Dan Rublee, City of Harrisonburg
Ellen Winters
Phil Winters