



DCR interoffice MEMORANDUM

To: Soil & Water Conservation Districts & State Park dam owners with significant & high hazard dams

From: Ken Turner, District (& State Parks) Dam Safety Consultant

Date: October 20, 2011

Subject: Draft White Paper: Setting Up a Table Top Exercise

Purpose of this Document:

This document has been created to provide dam owners (particularly Soil & Water Conservation District and State Park employees) informational assistance needed to set up a table top exercise as required in the Laws of the Commonwealth & the *Impounding Structures Regulations*. It has been submitted to the Division of Dam Safety and Floodplain Management Director and Regional Engineers for comments to obtain a minimum level of concurrence for our use in satisfying the regulation's requirement. Remember, however, that the dam owner is responsible for complying with all laws & regulations and the liability if the dam breaks rests with the **owner**, not the municipality or the state.

We will use the term municipality(s) in this document. Where used it may refer to a county, city or town or multiple jurisdictions in the state or even in other states as shown on the dam break inundation zone study mapping.

Laws & Regulations:

As far as the Laws of the Commonwealth are concerned the only mention of a tabletop exercise is contained in §10.1-605, B., 2. and this law only applies when the dam owner elects the option to choose to only pass 90% of the PMP with a reduction of 2/3 PMP through the emergency spillway. 2. states the dam owner making such an election will conduct a tabletop exercise every 2 years. This law is carried forward to the regulations in 4VAC50-20-53.

On September 26, 2008, the Virginia Soil & Water Conservation Board passed revisions to the *Impounding Structures Regulations* (4VAC50-20) that required, in part, that tabletop exercises be conducted. All Districts received 2 copies of a document titled, "*Dam Owner's Handbook*". That 3 ring binder contains a tab labeled Regulations & Laws. The definition of a "Tabletop Exercise" can be found in the regulations on page 5 of that document. Find the Handbook and open it to page 5. Discussions in this paper will refer to other sections contained in this handbook.

In 4VAC50-20-175, E. on page 39, contains text pertaining to tabletop exercises in combination with the drill requirements for high & significant hazard dams. Paragraph J. explains the format required for an EAP for high & significant hazard dams and under Section IX., Appendices, paragraph B. Plans for Training, Exercising, Updating, and Posting the EAP is mentioned. For our high and significant hazard dams this is the section in the EAP where we say that a table top exercise will be conducted every 6 years, in accordance with E. mentioned above.

No mention of a required tabletop exercise is included for low hazard dams in the regulations.

The information on the preceding page is the only reference to tabletop exercises that I can find in the laws and regulations and only tells us we have to have a tabletop exercise once every 6 years but more frequent exercises are encouraged. You read the wording on page 39 of the regulations. It is short and won't take much time. To paraphrase further it allows multiple dam owners to conduct one tabletop exercise for all their dams but I am certain that a sharp attorney would take us to task on that statement because the statement includes a phrase stating, "if the involved parties are the same". Since there is a requirement on every EAP that we provide in draft to every district and park under our care stating that staff gauge observers/alternate observers be on the dam continuously when the stage III is declared, there should be different staff gauge observers in every EAP where the SWCD's owning multiple dams (or any other multiple dam owner) is concerned. Most SWCD's do not have staff available to meet this condition. That aside the original intent in this paragraph was to allow SWCD's to conduct all their tabletop exercises (with their affected municipalities) at one time. Further it says that the owner will certify to the department that tabletop exercises have been performed.

Discussion

Unfortunately, there is no guidance on how to set up a tabletop exercise so we will have to go back to the definition to start.

"Tabletop Exercise" means a type of emergency action plan exercise that involves a meeting of the impounding structure owner and the state and local emergency management officials in a conference room environment. The format is usually informal with minimum stress involved. The exercise begins with the description of a simulated event and proceeds with discussions by the participants to evaluate the EAP and response procedures and to resolve concerns regarding coordination and responsibilities.

WHO: Let's start with who should be involved in this tabletop exercise. The Division of Dam Safety recommends that anyone named in the EAP be required to attend. Rather than required I would use the term recommended (since no laws, regulations or policy on how to set up a tabletop exercise exists) with the dam owner bringing anyone mentioned who does not attend up to speed on their required duties for their core group. The liability is the dam owners if the dam breaks and death or property damage does occur.

Core Owners Group

Owner: SWCD's - the chairman of the Board of Directors
SP's - the Director of the Division of State Park's (recommended)

Operator: SWCD's – the chairman of the Dam Committee
SP's – the Park Manager

Alternate Operator: SWCD's – Staff member with dam responsibility
SP's – Head SP maintenance ranger (recommended)

Staff Gauge Observer: SWCD's - Someone living close to the dam
SP's – Staff living on-site

Alternate Staff Gauge Observer: SWCD's – Someone else living close to the dam
SP's – Another Staff member living on-site

It should be understood that the dam owner has no control over who the municipality brings to the tabletop exercise. While we can recommend, we have no ability to mandate who attends on their part. Having said the above it is to our advantage to have as many municipal staff and State staff members available as possible who have a role in the EAP process to attend so make the recommendation to the emergency services coordinator but let them make the final decision on what municipal staff to invite. You invite the State Staff that have a role to play, see below.

Core Municipality Group

Emergency Services Coordinator/Manager

Recommendation regarding attendance at the tabletop exercise.

Board of Supervisors representative from the dam area
Sheriff, deputies and/or the 24 hour dispatch center operators
First Responders (Rescue Squad & Fire Fighters) from each dam area
County Staff with facilities at risk (sewage treatment & water plant operators)
VDOT Resident Administrator (VDOT RA)
VDOT staff that will actually be responsible for closing the roads but let the VDOT RA decide who to send
Department of Emergency Management representative (Mark Slauter) but get guidance from DEM
The DCR, Division of Dam Safety Regional Engineer
Do not forget to tell your poor struggling Dam Safety Consultant the schedule

That should cover local & state emergency management officials as defined in the regulations.

While I hesitate to include the general public, each district or state park can at their option include those people at risk downstream in harms way or with assets at risk as shown on the dam break inundation zone study and/or in the attached list to the EAP. Large groups are impossible to manage for an exercise of this nature but we will let you decide. It should be explained in the invitation that they would be spectators only, not participants. Remember, however, if you invite this potentially large group then the location you choose to host this event will have to support the numbers that attend. As a general guide we would recommend no more than say 5 people. The purpose in getting this group to attend would be to give them information about what you as the dam owner are doing to protect them and let them see the planning process that you as the dam owner are required to adhere to for their safety. So when the ESC or sheriff says to evacuate they will evacuate.

WHO IS REQUIRED & SCHEDULING: All significant & high hazard dam owners as of the regulation change on September 26, 2008, is required to do a tabletop exercise within 6 years of the regulation change and once every six (6) years after that. So by the end of September 2014, all should have completed this task. With 12 districts owning dams and 3 years left to complete that means 4 districts per year. Blue Ridge, Culpeper, Mountain Castles & Peter Francisco have volunteered in 2011 to be the 1st four groups to hold these tabletop exercises. No other groups have volunteered for the 2012 calendar year.

In the State Park system Holliday Lake, Douthat Lake, Swift Creek, Beaver Pond (both at Pocahontas SP), Bear Creek, & Hungry Mother Lake Dams are required to have tabletop exercises and a condition of having a tabletop exercise is having a final dam break inundation study. To date none have been scheduled.

WHERE: The District and/or State Park will determine the location where this training exercise will be held. Bear in mind that the size of the group could be as small as your core group with the municipality's emergency services coordinator/manager or huge if all recommended to be invited do attend.

WHAT: The District (& State Parks) Dam Safety Consultant will set up and run the exercise. Initially it will generally follow the exercises that have been presented in the Dam Safety Work Group. That is, the exercise will involve only a significant rainfall event with the exercise requirements being stated and three (3) scenarios presented. The 3 scenarios are: 1. leads to no evacuation, 2. may or may not lead to evacuation given the decisions/interpretation of those involved in the exercise, 3. evacuation required. As time passes we could add other emergency scenarios like an earthquake or any of the situations mentioned in the EAP table. For now let's just concentrate on a heavy rainfall event like a tropical storm/hurricane coming through the area until all twelve (12) districts and five (5) state parks get through the initial requirement.

HOW: How the exercise is run depends on you, the owner. You may want to have 1 core group involved or many groups depending on the number of dams, owners, operators, staff gauge observers, etc. you want trained. It makes no difference to me as your consultant whether 1, 2 or more groups want to get involved to provide input for discussion but the purpose is for all your dam responders to be trained in 1 exercise. As we have done in the past we will break up into teams with everyone having a specific role. Since you will know who is attending you can pre-assign what role your attendees will play. If we make these assignments at the meeting it will just take time away from the exercise so this assignment is better left up to you and done in advance of the actual on-site meeting.

We are required to use the EAP from one of your dams (significant or high hazard only) but each group could use a different dam as far as we are concerned. In our program the differences between EAP formats is usually very minor. The number of handouts needed is the issue here. **You provide the handouts.** The question becomes how many do you provide with mapping for individual or group use. We recommend that you have the municipality bring their own documents, printed for their people in the quantities they think necessary. Sharing is not a bad thing by the way. Tell me which dam you want to use and I will bring my own copy. Decide how you want to treat the others present. We recommend that if they were provided a copy then they should bring their own, if not its up to you. For example, your staff should have been trained with needed exerts already provided. We do not provide a copy to VDOT as far as we know but they have a role. Bringing extra copies is recommended.

Another issue that has been raised concerning multiple dams owned by each district is can we use a dam in one of our municipalities and not have another municipality where we own dams invited to the one (1) training session. Here the regulations do cover this problem. Again on

page 39, 4VAC50-20-175, E. says, **Drills and table-top exercises for multiple impounding structures may be performed in combination if the involved parties are the same.** If a second municipality is involved then they would have to attend the exercise to qualify for multiple dam waver or a 2nd exercise would have to be held in their municipality if they did not attend the first exercise. With so many dams in so many municipalities unless mitigating circumstances exist we have our plates full and would encourage districts & state park with multiple municipalities involved to have one (1) big exercise.

Because of the unusual demands placed on municipal staff time (every significant & high hazard dam owner in the municipality should be requesting these tabletop exercises) we have discussed allowing non-district & state park dam owners to participate in these exercises. This is a decision that you with your municipal staff need to make. The following requirements shall apply if outside dam owners want to participate; they must bring their own EAP, core group and consultant to advise them. We can discuss this prior to the exercise but our goal should be to satisfy the requirements for our dams only. In the process if we can help your municipal staff we are open to that but must know prior to the exercise to coordinate with other consultants with the intention of taking the lead so that our exercise is used. EAPs come in many different formats and their format may not be compatible with ours.

HOW LONG: We have run similar tabletop exercises comfortably in 4 hours but you should book the room for 6 hours for setup and take down. This will also allow some additional time if the groups involved take longer to make decisions than our groups do. Remember, the soil & water conservation districts are well ahead of the curve on tabletop exercises since our dam safety work group meetings began these exercises many years ago.

Another factor affecting how long, are the number of people attending. Generally, the larger the group the more time required.

FACILITY REQUIREMENTS: Any group cooped up for longer than an hour will need rest room facilities. We are equipped to be self sufficient from a program presentation perspective but depend heavily on power point presentations for these programs. One item not usually carried is a screen to show the presentation on. A white wall in the room works very well, however. A large pad on an easel can be handy to have. If you do not have one let me know and we will find one. The same goes for multiple plug-in bars and extension cords. We have laptop commuters with speakers for larger groups but back-up units would be a good idea to have handy in the event something goes wrong.

FOOD, BEVERAGES & SNACK BREAKS: We will leave these items to your discretion but we have no funding to offer you to cover these costs. We will almost certainly not be starting before 9:00 AM because of travel requirements by the parties involved. So these sessions will include either a normal lunch or dinner. We have always allowed “lunch on your own” at the dam safety work group meetings but find that we loose people typically after lunch. Again, we will leave this item to your discretion. Retaining the audience is important.

If you have any questions feel free to contact the District Dam Safety Consultant at your convenience with questions.