

USACE

**Moderator: Ellen Berggren
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1:01 pm CT**

Norb Schwartz: Okay. We're going to get started. Hello everybody. Welcome to another Silver Jackets Webinar. My name is Norb Schwartz. I'm going to be the facilitator for the Webinar. This session is being recorded.

We will post it on the Silver Jackets website, along with all the other previous Silver Jackets Webinars. If you're at the computer, you should be able to see our Welcome slide or first slide on the tabletop exercise on your screen. As usual during the course of the presentations, we encourage you to use the chat box so we don't miss any of your questions.

We will address the questions after the presentations. It's important, when you use the chat box, to address it to everyone. That's your first option in the long string of participants. So use address it to everyone. Now I've muted all the phones so, if you like to ask a question or join the discussion, all you have to do is press star six.

There can be little disturbances here and there so we muted the phones. But press star 6 if you would like to join the discussion.

We've requested through the Association of State Floodplain Managers one hour of continuing education credit for Certified Floodplain Managers that finish the Webinar. So if you qualify, we've been approved to grant one hour. If you qualify, you can see my email address in the chat box. It's the first item in the chat box. So just send me an email afterwards saying that you are a Certified Floodplain Manager and you'd like to receive the one hour of credit. Okay those are all the logistic details.

Ellen Berggren, the Deputy National Silver Jacket Program Manager, will introduce today's topic and presenters. So, Ellen, if you're ready, I'll now turn it over to you.

Ellen Berggren: Thank you, Norb. Can you hear me clearly?

Norb Schwartz: Yes, I can. Thank you.

Ellen Berggren: Thank you. Good afternoon everyone or good morning, depending on where you're sitting today. We appreciate your interest in today's presentation about a recent levee tabletop exercise conducted in Huntington, West Virginia, involving the West Virginia Silver Jackets and other.

The mock flood exercise brought together agencies directly associated with operating and maintaining the levee systems. As well as agencies involved with communicating and disseminating flood warning and potential evacuation instructions. Participants gained knowledge that enabled identification of appropriate emergency response actions and improve communication networks for use before, during, and after a flood event. Our speakers included several of my colleagues at the Army Corps of Engineers Huntington District and our partner from the West Virginia Division of Homeland Security and Emergency Management.

Ashley Stephens will begin the presentation. Ashley serves as a community planner and a project manager with the Army Corps of Engineers Huntington District Office. Her duties include Ohio Silver Jackets Co-lead, State Liaison for the Great Lakes and Rivers Division National Levee Inventory and Review Program, lead planner for the Continuing Authorities Program Projects, and environmental lead for Non-Structural Environmental Infrastructure in Hydropower projects.

Ashley is a Certified Floodplain Manager. Ashley will introduce her co-presenters. So thank you, Ashley, for speaking with us today.

Ashley Stephens: Great. Thank you all for joining us. Today we're excited to talk to you about the Huntington levee tabletop exercise that was held this summer.

We will hear from Greg Fuller with the West Virginia Division of Homeland Security. He served as the Southwest West Virginia area liaison and engages in planning in exercise activities. He also teaches at the Homeland Security Exercise and Evaluation program and other emergency management courses across the state.

We will also hear from Mr. Kevin Butler as well. He's a registered professional Engineer with six years of experience as a Civil Engineer with the Huntington District. He has prior experience with the Division of Highways.

Mr. Butler currently serves as our District Levee Safety Program Manager in the dam and levee safety section. He manages inspections and coordinates with sponsors on 28 levee systems within Kentucky, Ohio, West Virginia, and Virginia.

Lastly we will hear from Mr. Charles Goad. He is our Management Support Specialist for the Huntington District planning branch. He joined our planning branch in 2018 but began his career as an Army Civilian in 2001 with the Army Reserves. Charles has had past experience in tabletop exercises as well and has been a great asset to our team.

He's a graduate of the US Army Intelligent Officer Basic in Advance Course. He also has over 20 years of experience in uniform and also serves as a Senior Captain in the US Army Reserve.

We'll have different speakers throughout that I just introduced. And again, we couldn't have done this without the collaboration of all of our team including some members who were not able to participate today. To give you some background on the project, the mission was just to host an inter-agency levee tabletop exercise along with the city of Huntington, Cabell County, Wayne County, and other elements of the state of West Virginia and the Federal Government.

We couldn't have done this project without being selected through the Silver Jackets Levee Safety Proposal. We were honored to have the opportunity to carry out this exercise through those means. Our purpose was to facilitate a structured discussion-based session with stakeholders to exam roles during an emergency and the response to a major flood simulation.

Again I'm not going to get through all those goals. But they're really important. Inspiring relationships but really identifying our roles and responsibilities and duties was really key at this levee exercise.

We found that we were learning more about those roles and responsibilities as we went through the exercise. We'll talk about that a little bit later. Also enhancing our communication.

Identifying areas of potential improvement within a local community's emergency management plans and procedures. Some of the goals were to identify those areas and to have actions take place after the exercise. As we get through this discussion, you'll see some of those actions that have taken place as a result of the tabletop. I think Greg will give a little bit of the background about what a tabletop exercise is.

Greg Fuller: Good afternoon, everyone. It was an honor and a pleasure to be involved in the tabletop exercise that was conducted here in Huntington with your team. One of the roles that I was able to play because of my background was to make sure that we were doing what's called an HSEEP, Homeland Security Exercise and Evaluation Program, compliant exercise as we put this event together.

We wanted get the kind of value from it that is necessary for all of the participants. We were pleased that we had a large array of participants in this structured discussion that was held. And of course those that have been involved in tabletops before know that the tabletop is a facilitated structured discussion.

It was based on a scenario that was developed, which I believe Kevin is going to get into. But it was an exact replication or a near replication of the events that happened in the '37 flood. For those of you who are familiar with the HSEEP process we use a tabletop exercise to enhance general awareness.

A really important one is to validate our plans, procedures, policies, etc. Because what we want to do is exercise those plans. It allows us an opportunity to find gaps in those plans and areas for improvement while we're clarifying roles and responsibilities. A good thing about a tabletop exercise is that it permits us to do this in a very low-stress environment. Ashley, if you could advance the slide for me please. Thank you.

The purpose of the exercise was of course to see if the plans and the capabilities matched for a response to a major Ohio River flood at the Huntington and Guyandotte the levee systems. It also examined the roles and responsibilities during an emergency situation for: detecting the needs (Kevin is going to get into some of that); evaluation of the severity of the situation and decisions related to the response actions or the intervention; communications internal and external in all modes (A lot of times when folks in emergency services think of communications we think of electronic communications, and this goes way beyond that in all manner of communication back and forth with the kind of positive feedback that we hope for); and implementing an emergency evacuation order which is an interesting concept in the State of West Virginia because there are procedures for that. And pursuant to our state code, the Governor can do that or his designees. But that was a procedure that we needed to look at to make sure that it was in place. And to capture the lessons learned in an after action report that the staff is working on currently. (Next slide)

Thank you. And we have to ask the question why is flood risk communication important and you'll see the preparedness cycle there. And again this is a part of the HSEEP methodology that we employ when we do exercises.

I like to call it a perpetual coil because it's got to evolve and move forward as well as cycle. And it's never ending because we take what we learn and we move on to a next exercise or next set of exercises. And some of that is already happening from the exercise that was held here in Huntington in that, while this was a tabletop exercise, many drills are now taking place.

Those drills involve the traffic closures in the levee that and floodwall that are being exercised that have not been exercised in, to my knowledge, in well over 20 years. It was an undertaking that needed to happen. It's one that is continuing and, I believe, it's going to produce some good benefit.

But we want to increase preparedness in response to the flow then of course. A big take away, I believe, is going to be the enhancing of the emergency action plans. We want to encourage appropriate flood plain management and reduce the flood risk to the population. The benefits that we hope to take away and we believe we're already seeing some of these, such as the increase number of the stakeholders. We had a broad array of stakeholders from highways and we have a lot of non-traditional stakeholders involved in the Huntington area through the Homeland Security forum that meets monthly here.

A lot of times when we think of stakeholders we think of emergency response organizations. In a levee system you think of folks who've maintained that, but in our situation we have a very broad array that spans school systems and transportation, and all the folks that we would need. And help them develop and understand the roles and responsibility task in the plans.

The sister organizations that'll be involved and where you'll close all the traffic down to a city, even a small city the size of Huntington, there's a lot of logistical concerns that has to be addressed. There is a lot of pre-planning that

has to take place with regards to staging of resources and those sorts of things. Stakeholders may use strategies identified at the workshop to reduce risk.

We certainly hope that will be the case. We utilize the lessons learned to further develop their disaster response plans and procedures. And we're seeing a lot of drills and activities.

We're seeing some issues that have developed as a result of that with regard to traffic flow and traffic pattern and those sorts of things that the sister agencies are taking care of that we wouldn't necessarily recognize coming into an exercise of this nature. So those benefits are even strengthening.

The relationships were strengthened by a common goal and better identification of duties and responsibilities. One of the things that these tabletop exercises do for us is they allow us to have some face-to-face interaction in this low-stress environment that enables us to know who's responsible for what and what their roles are and to identify those roles.

To develop a relationship prior to the emergency or the event that has a lot of beneficial properties as we go into these sorts of events. I believe that concludes the slides I'm presenting right now.

Ashley Stephens: Okay. Thank you, Greg. And feel free, if we're leaving anything off, to jump in as well on some of these other slides.

This is Ashley Stephens again and I will talk to you about the planning process. So I think what was really core and really strong was that we had this strong collaboration in our planning meetings. We had a core group that really worked together throughout the initial part of the planning process

towards the end, and even to where we are now with working on the after action report.

Key participant included members from the Corps of Engineers to Cabell County Office of Emergency Services, to the West Virginia Division of Homeland Security, our Huntington storm water utility as well. I think having all those team members working together throughout this whole process strengthened our delivery and success of the exercise.

Team members, not only came together and worked through what scenarios that Kevin will talk about later, but came together and also helped develop a list of stakeholders to attend the exercise as well. Our stakeholders also provided the meeting and exercise facility. So really with that picture together we achieve more is key to how this success of this project took off.

And on the next slide is a recommended overview. It's just a sequence of planning tasks. If you read through them you'll see what would happen before, during, and after. So before obviously you're going to determine your scope. We determined what scenario that we were going to do. We worked together to identify our stakeholders and prepare the scenario.

At the event we conducting that exercise. It's kind of key but I want to highlight it that we also videotaped the exercise as well. So if we need to go back to it to capture something that maybe we missed we have that video as well or to use as a reference to assist others that are holding a tabletop exercise.

After action is really where we're currently at and we'll talk about that later on in the presentation. We're capturing those lessons learned and we're working on an after action report.

The next slide are recommendations for some key event planning milestones. If you look at the keys along this chart, they're kind of hard dates we have that you really needed to nail down in order to move throughout the next sequence. So, if you look at those, we needed to confirm our location venue. We needed to make sure we had invitations out to our stakeholders. We needed to finalize our scenarios. So we felt that those were key milestones in that planning process leading up to our tabletop exercise as well.

Some of our communication methods, our techniques and tools, we provided a handout prior to the exercise to all of the stakeholders that were invited. Discussing, you know, the different goals, the objectives, and the purpose. What they may be needed to bring.

We wanted our key stakeholders to bring their emergency action plans, any evacuation plans, different plans that they were responsible for within their area to bring those to the table and have those ready so that we're able to go through and identify gaps or able to point to those plans as well during the exercise. We worked together on formulating a presentation with our scenario.

Again with that core member of teams that I talked about before, we worked together to run through that scenario. During the exercise at the end there was a hot wash, so we talked about benefits and improvements. We were able to capture those. That would really help our lessons learned. We also did an evaluation guide as well. Again, we're working on an after action report.

But I think what was important was we allotted about three to four hours for the exercise itself. That gave us time to conduct the exercise. Then really

make sure that again that we have that feedback from our stakeholders because that's critical in capturing our lessons learned.

And our after action and being able to then send that back out to all the stakeholders as well. Just to give you a little bit of background on the exercise itself, we held it on July 26 of this year. It was hosted by our partners and led by Greg and Kevin here. Kevin is with the Corps and with Greg with the West Virginia Homeland Security.

It was attended by over 57 individuals. So again I think that's really key that we had such a wide spectrum of stakeholders that were invited from local hospitals, the US Coast Guard, National Weather Service. If you go to the next slide, you'll be able to see just all the different stakeholders we had from the Federal, the State, and the local agencies.

We even have independent and private entities. We had participants who have a gate closure at their facilities. There were key people that aren't just within our local and state governments that need to be involved.

And making sure that we capture all of these agencies is really crucial because we all play a part when something happens. So I just really wanted to highlight that, although there's key stakeholders highlighted here, it really is a group effort.

Another thing I want to note that we had some observers as well who weren't participating. And some of those were from local levee owner operators. So it is key that they were interested in learning from our exercise so that maybe they could implement something for them or just to gather those lessons learned.

So we did have some neighboring levee owner operators come participate as observers in this event as well. Kevin is now going to give you some background on the Huntington Levee System and the exercise itself.

Kevin Butler: Thanks, Ashley. We're going to run through just a few sample slides that show a little bit of the scenario that we presented for the group. I'll start with just a little bit of background on both levee systems that were included in this scenarios.

The reason that two systems were included rather than just the larger downtown system is because we have one sponsor - one municipality that is responsible for the ownership, operation, and maintenance of two separate levee systems. Protecting two separate communities. Different parts of the country deal with different natural disasters.

Out west obviously they're dealing with wildfires right now. And perhaps coastal regions would primarily deal with hurricanes and coastal flooding, that sort of thing. But in our part of the world, in Appalachia riverine flooding is the number one natural disaster that affects our communities.

Both of these systems are about 75 years old. And were constructed in the 1930s or excuse me beginning in the later 1930s. And completed construction in the early 1940's following our flood record, which occurred in 1937.

In total, both levees are almost 12 miles long. With a total of 17 pump stations and 45 traffic openings. These are entirely urban levee systems.

The top right photos show the levee area for just the downtown system. It provides protection for about 29,000 and an estimated economic value of 4.5

billion. The neighboring (Guide) dock system protects about 3000 people and approximately 1 billion in economic value.

Neither project has been fully loaded since construction in the '40s. So there's a lot of uncertainty as to how they would perform during a flood event. Maximum flood record was in the 1940s and loaded these systems to about 50%. So we started the flood scenario with minor flooding already occurring in the area. A couple of us did some research on the '37 flood as Greg mentioned and recreated the flood hydrograph so that both the weather and the timing of the flood made for a practical response scenario. Notice we didn't want to give the participant something that they just could not handle in terms of response. But also wanted it to be realistic enough that it provided for an effective exercise.

And for each day of the scenario, which spanned many days because the Ohio River is much like the Mississippi or other large bodies of water that the flood duration would be very long. So for each day we provided the current flood level as well as the forecast for the coming days. And then cued the audience to get them to consider emergency response activities.

So for each day of the scenario we asked several questions to try and encourage participation from the various stakeholders who were present. The photo that you see on the right is actually inundation mapping of the leveed area that was developed by the modeling mapping and consequences scenario of expertise out of Vicksburg, which is part of a higher level risk assessment that is taking place right now for the Huntington downtown system. That mapping was really helpful throughout the scenario to understand both the timing and depths of interior flooding as well as open routes for evacuation.

We also created some operational failures along the way so that the response community could brainstorm ideas, brainstorm ways to try and solve those problems as they arose. In addition to adjust the routine system operation because obviously there would be traffic closure that would have to go in. And pump stations that would need to be operated.

So we wanted to throw in some issues along the way that would require some brainstorming. We tried to also design the scenario in such a way that it would encourage the most participation from the stakeholders. So I looked at the list of stakeholders that was provided to me by Ashley.

We tried to really think through the scenario so that we got the most participation possible. Again a lot of the same questions throughout the entire scenario about operations and response. Big takeaway here is that we routinely cued the flood forecast continued to change and field conditions continued to worsen.

On the final day of the flood scenario we concluded that the Ohio River crested at just 1-1/2 feet below the 1937 record flood. Again that's a level that neither levee system has ever seen. Interestingly enough we had some really large predictions in the spring of this year that thankfully did not come true.

I think we were predicting river flooding in spring of this year at around 63 or 64 feet, which would have been very damaging to our area. So thankfully those predictions were lowered and we didn't see flooding of that magnitude. But I think that definitely helped to stress the importance of doing something like this exercise that we did in July.

Also just want to emphasize that flood conditions on the Ohio are very long duration events. And that even though the river crested on the final day of our

scenario, there's still at least a couple weeks of flooding to deal with as the river would recede to normal levels. So to follow up on that you can see the first bullet there what could happen as the Ohio continues to recede over the next week and half to two weeks.

That bullet actually prompted a lot of discussion amongst the group about issues such as fatigue of response staff during such a long event. Which I've learned that the fatigue factor is a real thing that plays into the entire emergency response community, ourselves included. Also discussion about breakdown equipment and pumps.

Also led to a discussion prompted by the sponsor about long-term funding for system rehabilitation giving the age of both of these levee systems. Both of these systems are approximately 75 years old. I believe that is all that I have.

Charles Goad: Good afternoon everybody this is Charles Goad. I'm going to talk to you a little bit about the after action report. The AAR or After Action Report is a very important part of the exercise.

The exercise really cannot be said to be done until the AAR is finished. The AAR records your outcomes and should ideally be used to improve your processes and your knowledge base, organizational knowledge. In a lot of cases, AAR has the ability immediately improve outcomes.

It's not an investigation tool, it's a learning process. An AAR done correctly will incrementally improve processes and procedures in your organization. The AAR should ideally be developed early in the process of your planning.

The framework for the AAR is going to come from your measurement criteria, your project business case, your scope, your intent, those sorts of

things. The AAR should address both the planning and the execution of the exercise. When you do your AAR, it's important to not just analyze what was done during the event, but you need to analyze how you got to that place where you're executing.

For example, your plans, how you got there, how the invitation process worked? How did the event venue work? You need to ask was the event valuable? Your core capabilities as I said will come from your business case and your scope, that sort of thing. Those should be identified early. So we talked about doing AAR in several different ways.

There's two normal different directions you can go formal or informal. In a formal you're taking a written paper given to everybody. Informal you're more or less standing at the top of the room taking notes from individuals.

And recording them on a whiteboard or a butcher block that sort of thing. We went with a formal type. Our sponsors did it for us so that helped a lot. The final report will be distributed to all the participants that were there. It needs to identify ways to improve your processes, revise or update processes and procedures. You can also use it to acquire resources.

Evaluating outcomes, the outcomes and lessons learned from the event are very valuable. They should ideally be recorded in your organizational records in case you need to do this sort of event later. Some of the specific outcomes from our event were to facilitate the exercise of traffic closures that hadn't been completed for many years.

Agencies found collaborating agencies who could assist if needed. There were a lot of good relationships made during and some that were solidified. It identified gaps and resources, funding, manpower, plans, that sort of things.

It showed a desire by many participants to make this exercise a yearly event. Some of the other less tangible outcomes that may help later down the road, the framework that we built for the future, if we are ever tasked to do another tabletop, will have a good solid foundation to build upon for the next time. We were able to develop a strong list of key safety personnel in the area.

The organizational knowledge and the processes for executing at the tabletop are now something we have on hand. One of the challenges was stakeholder management. We really spent a lot of time managing our stakeholders.

Identifying who should attend and then trying to connect with those people. We probably spent 15 to 20 hours total just on the phone calling people in the area. And I think it really paid off.

We got a good outcome. Scenario development wasn't really a challenge. But it really didn't have any other exercises that we could build from since the scenario that the folks here developed is completely, wholly new.

And it didn't build upon any previous scenario. Expectation management was another challenge but it's not listed here. Communicating the purpose and desired outcome really helped us to entice attendees out.

And I think it helped to let them know what to expect when they came. There were a lot of satisfied folks I think. Lessons learned, there's more than just the two that are here. But some of the more noteworthy were realization that certain courses of actions were not tenable.

Agencies thought in a lot of cases they had a plan to act, but upon exercising it they found that they were incapable of doing it. So the tabletop really brought

a lot of that stuff to light. Understanding capabilities, constraints of other agencies.

There was a lot of expectations for some agencies to borrow manpower or resources. And when the time came it just wasn't happening. There also was a lot of cases of people that found out that there were resources available that they didn't know about so that was another positive.

And of course it fostered a lot of relationships both new and old. The main takeaway was that collaboration was the key. As Ashley said, that really made this standout. We made a lot of the stakeholders a part of the team. We sought their input. Then we tailored the event to what they needed in a lot of cases.

We determine the key stakeholders in the community and engaged them heavily. They have a lot of institutional knowledge and it helped us make the event a success. Existing opportunities - advertise the event at other meetings with potential stakeholders.

If you have other existing meetings, try to gain attendees from there. Seek partnerships for mutually beneficial arrangements. And then when contacting potential attendees ask them who else they would like to attend, or who else they think would be a good person to invite.

Communicate with the community using various means: voice, email, mailing, and personal; if anything, that will work to get the participants.

Tailor your scenario to the audience as I said. Then communicate back to your attendees after the event concludes, and provide them with the lessons learned.

That concludes our part of the brief. We'll pass it back over to you, Ellen or Norb.

Norb Schwartz: Okay. Well thank you very much. Ashley and team and Greg, it was very well organized and professionally done. I learned a lot. We had about 75 people online so there may be a few questions out there. We've got plenty of time for questions and answers.

So what I'm going to do now is ask that anybody who wants to join the discussion or ask a question, please take a moment now and do star six. That will un-mute your phone. So un-mute your phones by star 6.

Also I encourage you to use the chat box if you have questions. That works very well, too. So while you're doing that I'm going to stop the recording. So just bear with me.

END