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Henrico County Board of Supervisors Work Session, Tuesday, February 11, 2025

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[00:09:17] Good morning, everyone, and welcome to our work session on Tuesday, February 11th, a snowy Tuesday. I appreciate everyone getting here. Glad to see everybody here safely and appreciate the flexibility with the time change as we try to beat the weather and get everybody home safely.

[00:09:34] A unique occurrence today for our work session. Obviously, we're down here in the boardroom. It's being live streamed. So for those of you dialed in at home and watching from afar, we appreciate you being here. Please remember that we're here for a presentation on the report on the water crisis.

[00:09:51] And this report is available online already to our residents and our partners on the Henrico County website. So I want to make that known to folks so they can review it. I also want to welcome a few members of the media. Roland Wilson from TV8 is here. Thank you. Elizabeth Holmes from TV6 is here.

[00:10:08] And Lyndon is here with VPM. Thank you, all three of you all, for making the trip and for those dialed in online today as members of the media. Mr. Manager. Mr. Chair, members of the board, as

promised, 30 days ago, you are about to receive two independent reports regarding the water crisis that we had 30-plus days ago.

[00:10:32] Chris Pomeroy from Aqualaw is going to kick us off with an after-action report, and he has prepared a timeline, if you will, that is incredibly helpful, helpful to me as I was here.

[00:10:47] And I learned a few things in this after-action report. And then Dan Seeley is going to come forward and make some recommendations regarding what we can do as a county to improve, literally, the ability of our county to provide water in a uniform way throughout, not just the western portion, but also the eastern portion of the county.

[00:11:13] and then some options that delve into what Henrico's Department of Public Utilities looks like going forward years from now. I do, as I begin, I want to take a moment of privilege, Mr. Chair, and recognize some individuals that were here during the crisis.

[00:11:36] And I specifically recall Tuesday evening being with Mr. Nelson and Mr. Cooper on the side of Laburnum Avenue as a number of these folks were trying to basically get water further east.

[00:11:53] And then we had a number of folks within the operations division that I don't think went home. And I know, Bentley, you were here throughout the crisis, and all of these individuals worked hours that I've never seen.

[00:12:10] It was probably, in my career, one of the most humbling efforts by staff to make a difference in the situation that we were dealt. And I want to specifically recognize Alvin Christian, Assistant Director, Nellis Sumaconde, Operations Division Director, Jonathan Bizzolka, Pumping Operations Section Manager, Jeff Sullard, Pumping Operations Superintendent, Thomas Meade, WRF Assistant Division Director, Victor Valenzuela, Construction Assistant Division Director.

[00:12:47] And then we had a number of individuals that, you know, were crews that were on the side of the road. Mr. Nelson, Mr. Cooper, I know you recall how cold it was that night and just the efforts that were undertaken.

[00:13:02] So as we begin, I simply want to say thank you to you, Bentley, this group of employees that absolutely it was, again, it was one of the most humbling things I have seen as far as just raw effort to make a difference.

[00:13:19] So, Mr. Chair, I appreciate the opportunity to recognize these individuals, and I'm going to ask Chris Pomeroy to come forward and get us started with the work session. Manager, thank you.

[00:13:38] Mr. Chairman, members of the board, Chris Pomeroy, I'm privileged to be with you this morning to share our after-action report. The scope of the presentation will begin with sharing for everybody's information the scope that we were assigned and the methodology that we took.

[00:13:59] As you'll see, we did our best effort to comprehensively dig in and lay out the facts of the situation through a thorough investigation that we're pleased to share today. We'll cover some brief but essential background on both the Henrico system and a slight overview of the Richmond treatment plant facility failure, though it's not the purpose of the report or the presentation to attempt to figure out or delve into what exactly went on inside the Richmond facility that day and that week.

[00:14:33] There will be other reports for that to come. We'll then turn to Henrico Department of Public Utility's overall strategy for managing and mitigating the problems of the week and minimizing service

impacts as best they could with the infrastructure they had.

[00:14:51] I'll lay out a timeline of events. It's literally day by day so that you can see the highlights, and I'm happy to go into that as much detail as you may care to. I'll close on a few points related to interjurisdictional communications and coordination and a summary of the limitations that were encountered but the benefits ultimately delivered by the efforts of the Department of Public Utilities that the manager just recognized.

[00:15:18] So as to that scope, the assigned purpose to our firm was to provide a detailed timeline of events and narrative of actions taken by Henrico DPU to make good on that commitment that the leaders of the county together announced in the immediate aftermath of the crisis.

[00:15:41] We've worked hard to assemble the factual information, provide a lengthy report that's well-documented with references to numerous original sources that are also provided in appendices for everyone's information. What we did not strive to do here, despite me being a lawyer and our firm being organized as a law firm and regulatory consulting shop, is delve into legal aspects of the problem, nor did we attempt to provide an assessment of managerial or technical or operational performance per se.

[00:16:18] We focused on the facts and collected them and laid them out. There will be recommendations for water system improvement options that will come from the engineers. they do not come from me. We also stipulated that there were certain conditions required by me and agreed to by the county before we were willing to proceed to conduct an independent type investigation of this sort. We insisted and the county agreed that we be allowed access to and full cooperation of any and all staff upon request, access to all relevant factual

[00:16:57] information upon request and ultimately a full editorial license over the report that we presented today. This is our independent work. Nobody in the county has specified it. I take full responsibility for it. The type of information that we considered, and you'll see this referenced throughout the presentation in the report, employee interviews, extensive review of contemporaneous employee email records, references to cell phone logs, especially the DPU director's cell phone log as he was a

[00:17:34] central hub in the response through the utility, limited text messages where they were useful to fill any gaps or supplement the timeline. We related everything back to press releases and website and social media postings by the multiple jurisdictions. We reviewed maps and graphs and illustrations that were provided by the utilities department, and we relied to some degree on the Virginia Department of Health's own assertions, just for background, about what went on inside

[00:18:07] the fence line at the Richmond facility that got this all started. One map of the system for brief orientation, which I will not dwell on, but a couple basic points to have us all oriented.

[00:18:27] An eastern end of the county where we suffer the worst consequences of the outage. We have a small yellow triangle which is the sherm pressure reducing station which is the key gateway into the east end you'll hear sherm mentioned that's the main point of delivery into geu the greater eubank zone serving vast eastern portions of the county in blue in the center of the map we have laz laburnum azalea zone also suffering significant outage and receiving major points of delivery

[00:19:05] normally from the city of Richmond. This was the key battleground to push water from the west to the east to mitigate the outage. And over on the western side of the county, there's a yellow star. That's the county-owned treatment facility at the corner of Three Chop and Gaskins Roads, and the

heaviest dark blue line extending east-northeast. That's the main transmission main that heads up toward and into the greater hermitage zone which is the path over to the

[00:19:40] laburnum azalea zone obviously the large white space in the area there of course is the the area within the city limits the city plant being right downtown on the James River and its lines extending out in a radial fashion to all corners of the county so interjurisdictional water supply. Going back to the 1990s, it was during the 1990s that Henrico ultimately reached

[00:20:15] agreement with the city that enabled the county to build our own large, now 80 million gallon per day water treatment facility. Prior to that, with the exception of some well systems, other small systems, service was exclusively by Richmond. Richmond has a large 132 million gallon per day rated facility. I mentioned its primary service areas. It also, that it serves efficiently due to the layout of the system, it also serves a few other zones along the city-county boundary line,

[00:20:49] West Broad, Three Chopped High, and River Road. The Henrico facility placed in service in 2004 supplies the greater hermitage zone I had mentioned, Three Chopped Central, and Three Gravity, and provides limited supply down to those other zones along the city-county boundary.

[00:21:10] It was able to step in and do more of that during the crisis simply due to proximity. The delivery points for the Richmond water are at 39-metered connections, really all along the boundary line, some of those much larger than others, the Sherm Station and the East End being the most notable.

[00:21:30] It's hard to talk about the topic without at least touching on what may have happened at the Richmond facility that day. Here's how the Virginia Department of Health sees it according to their notice of alleged violation that has since been issued to the city.

[00:21:49] It began with power failures on the Dominion feed, on-site generators that did not trip in automatically, required manual operation that came way too late, and then uninterruptible power supply batteries that were either not in sufficient quantity or just burned out too fast, leaving the electronics without power either.

[00:22:11] This resulted in internal flooding, filling up the bottom of the water treatment facility, submerging pumps that were not intended to be underwater, and a variety of electrical equipment that literally fried the operation.

[00:22:29] The SCADA computer control system to operate the facility was out. And then lastly, there's questions of timings and delays. It appears that certainly by 7 a.m. the facility was down and in a bad state.

[00:22:46] On a positive note, I'll say at an operator-to-operator level, there was good early communication to shift off and provide relief, take pressure off the city system. But really, the severity was never known, never announced, and are addressed at a managerial level until Henrico initiated those contacts mid-afternoon on Monday as things were not being resolved and not coming back as they had in the past.

[00:23:14] Can we ask questions? Mr. Chair, do you want us to wait until the presentation is over? Yes, sir. Did I just hear you classify this as good communication? Did I just hear you use the word good? Well, only the nature of, I'll say, operator-operator quick notice to provide relief.

[00:23:34] We were told the plant was down. The issue, Mr. Chairman, Reverend Nelson, is that the severity of the problem did not come out until later in the day. The facility has gone down in the past, and

both Richmond and Henrico have managed through that with the storage in the Richmond Reservoir System and the storage in the county's own tanks.

[00:23:57] So really it becomes a question of duration and severity, one of which was unknown and the other took too long. So from what I understand, we voluntarily decide, Richmond asked us to decrease our water intake, right?

[00:24:22] Yes, they did. Okay. Can you remember at what time did they tell us that they were not operable? Not the DPU director, but the staff. So at any point, did the staff tell our staff that they were completely out?

[00:24:44] I don't think that part happened. Right. I found no evidence of that. We knew that the plant was down at 7 a.m. What we did not know was that it would not be coming back. We did not know the severity or the eventual duration.

[00:25:00] Okay. And that's what seems only to come to the light of day at 2.34 Monday afternoon. All right. Okay. All right. So, and I noticed that in the entire section, water treatment, Richmond water treatment facility failure, there aren't any times listed.

[00:25:20] There aren't any times listed until we get to several paragraphs in, and that's 2.30 to 3 p.m. So this entire summary describing who was on staff at the Richmond plant and what they did or did not do and not switching over, we don't know the timeline of what happened in the Richmond facility that morning.

[00:25:41] Is that right? Basically from them placing a call to us at 701 saying we've got something that seemed to be described as a fairly commonplace, no fire alarms ringing issue, we're on kind of a courtesy call to let you know, 701.

[00:25:57] Then all this stuff happens in Richmond Treatment Facility, we don't have a timeline to know when that happened, we don't even know what was attempted, right, because some of the language is it was not switched to this, or they did not know how to switch it. we don't know. And is that because that has not been released by Richmond at this point?

[00:26:18] Right. Ms. Roundtree, correct. The inside the fence line issues at the Richmond facility were not accessible to us. That's not yet been released by the city of Richmond. We do have the health department's own assessment from their interviews. And that's what I've summarized here.

[00:26:35] And I've included their entire notice of alleged violation in the appendix. Those are the current allegations by the health department and I assume that the health department will be pursuing those and the city's reports will be forthcoming with the inside defense line type information. Does the scope of what we've retained you to do include you making any adjustments or amendments once more information from Richmond becomes available? Yeah I've not been tasked with that yet but noted in the report is number one the obvious point that due to your quick turnaround commitment you're

[00:27:13] going first, which means I'm going first. And we have endeavored to turn over every stone we possibly could. And I think I have it right. If we miss something or we learn something from further third-party investigations, I'm all ears and I'm available to you to follow anything up or make any adjustments that would be warranted. So one more, Mr. Chair. So to be clear, what we are hearing from you is you didn't do interviews with City of Richmond employees. You talked specifically

[00:27:47] to us, BDH, other third-party persons? I did not contact anybody at the city. I also did not pursue an investigation with the health department itself. I focused on Henrico DPU and everything that was done inside the county. Right, but there is text messages, emails. You do have verifiable things that are communications between us and them. So the timeline, you feel really comfortable with the timeline that we've been given as it relates to our person

[00:28:27] made contact with them then, I mean, at this particular time, because there were several times in what I peered at where I did have communication with persons who were working in the water treatment plant, but it did not seem like we didn't know everything, meaning it was down, we're working on it, it should be up by this time.

[00:28:53] It was down, we're working on it, it should be up by this time. And that seemed to go all the way up until around one-ish or whatever. And then a conversation, then conversations were had with the other regional leaders.

[00:29:10] Finally, our DPU director, Mr. Chan, at two-something, finally talked to the Richmond DPU director, who at that time then said, hey, we've got a problem. But that was seven hours after the problem, based upon the timeline you shared.

[00:29:30] Yes, Reverend Nelson, I've asked that question every way I know how, and I've looked at every written piece of communication that I can find, and I see what you just described. Thank you. You'll see more of that come out relative to each of these questions in the timeline that follows.

[00:29:52] So I hope what you see in the next slide is helpful in that regard, too. But briefly, this next slide just really summarizes the strategy that I observed in DPU's response. First, manage and use water that was stored in the tanks and lines wisely to stretch it out.

[00:30:13] Increase water production at the Henrico facility so that we'd have as much to use and offset as we could push through the distribution system, which was the limiting factor. Pump that water to the east to the extent possible.

[00:30:29] Ultimately, trying to buy time for the Richmond facility to come back online. I'm told that this happens maybe a couple, two, three times a year, just a much shorter duration to the extent that it's a non-issue given the in-system storage of both the city and the county.

[00:30:46] So time is what really works against everybody in a scenario like this, and time ran out that week. And lastly, on the back end of the problem was the task of re-energizing the system safely so that we didn't do damage to the system, which would occasion more delays and more costs for repairs.

[00:31:10] So jumping to that critical timeline, there we have the 7 a.m. call that came in, the facilities down, the request for us to adjust, the severity itself not reported. So immediately staff stopped our draw from the city at three-chopped.

[00:31:32] Apparently that is the first most important move to make in a scenario like this because it's a three to three and a half million gallon per day regular take that can be quickly shut down and replaced by water from the Henrico facility.

[00:31:48] So it's kind of the go-to big first step that helps the city when the city is dealing with a problem at the facility. We began some initial efforts to redirect water to the west through a critical control point up on the eastern boundary called the Wilkinson pressure reducing valve.

[00:32:09] The Henrico system was stable. The staff was making morning check-ins. We knew the facility remained down. We did not know the severity. There was increasing concern over the late morning into the afternoon as the timeline was simply extending and extending.

[00:32:27] It was getting uncomfortable to the point that, as was mentioned a moment ago, the Henrico director started calling his counterparts, Richmond, Hanover, Chesterfield. That all occurred shortly after 2 o'clock.

[00:32:43] At 2.34, Director Chan receives a return phone call from Director Bingham in Richmond, who responds with the startling news that the facility might not restart any time today. That was the shock to the system.

[00:33:01] At 2.45, it appears that at 2.45, the other jurisdictions learned that for the first time, too. It was in the same time frame that the state health department says it was notified by Richmond for the first time.

[00:33:19] So that window, about 2.30 to 3 o'clock, is when the news really comes out that not only is the plant temporarily down, it's going to be down for a long time, not coming back today. That's the critical information. The timeline is everything.

[00:33:36] The duration is everything. Mr. Chan organized and hosted a meeting among all the regional DPU directors that occurred at 2.45. The Health Department had Richmond announce a boil water advisory by 4.26.

[00:33:54] Henrico hosted another meeting among the regional directors, this time with the Virginia Health Department. At 5.12, Richmond advised expected restart by 10 p.m. Good to hear that things were looking up.

[00:34:11] However, at 648, the main supply into eastern Henrico went dry. Richmond was down, Henrico County was on its own. Sir, just to be clear, I'm sorry to interrupt you, 648, is that correct?

[00:34:29] That's when the supply to the east out of the SHRM PRS range out? Yes, sir. Four hours, and I just want to make sure I'm correct, four hours and 14 minutes after this county was notified that there was a critical price.

[00:34:47] It's an incredibly short window of time. Yeah, thank you, sir. Mr. Chair, I'm sorry to keep asking questions, but the timeline requires it. I'm confused. I think I know the answer, but Enrico hosted a teams meeting among regional at 430.

[00:35:10] We did. Hosted the regional leaders at 430. Oh, no, so the first one. So I'm talking about the second. No. So we organized and hosted.

[00:35:27] So there were two meetings that day. Both times we organized them. Were we asked to organize them, or did we just take the lead and say, there needs to be regional conversation okay Richmond Day okay okay at the 234 Reverend Nelson the 234 call from Director Bingham she asked Director Chan to organize that so he did he host he reached out to the counties and pulled that together and then so it was you know an interesting

[00:36:02] way to start with Henrico taking the initiative you know the second meeting at 4 30 might have been a kind of a simple administrative thing and perhaps back at 234 we were helping when they were busy but uh in any event yeah henrico took the initiative uh pulled folks together and then at 4 4 4 30 at

least as a courtesy we did it again thanks mr chair are we gonna are we gonna talk to mr chan you think yes sir okay tuesday early morning hours uh the time frame was uh

[00:36:41] continuing to slip at 3 11 uh richmond advised water production would resume uh now uh we're up to 5 a.m. Earlier the prior evening, it was 10 p.m. Now we're up to 5 a.m. At 6.14, advised that the pumps were now operating. Pressurization was expected to occur at about noon. You can see some slippage along the way, 6.31, production not until 7.30. They're obviously fighting a difficult problem inside the Richmond plant, so some of that may well be understandable.

[00:37:19] On the other hand, you can see that the information keeps changing as we go through the timeline. 7 p.m. Monday night, as of 7 p.m. Monday night, Henrico County was on its own. As of 7 a.m. Tuesday morning, the Henrico system lost pressure at the SHRM pressure-reducing station and also at the Lenn Avenue station.

[00:37:45] That's a critical point in time. That's when Henrico was then. The system was, pressurization was down, and we were really scrambling at that point. Was that because of the Highland Springs break?

[00:38:02] The Highland Springs break is thought to be part of this. A big piece of it, you'll see as we get through these slides, as we come to, the staff came to conclude that we were probably losing a lot of water backwards through the system. So every leak and release matters.

[00:38:20] And if, Ms. Roundtree, if you'll allow me to get to the slide that shows a little bit of the timeline on the water loss from the system, I think it'll be more obvious how those things play in. So it was the line break. That line break gets repaired. It was right in the middle of the zone taking the biggest hit, so it's logical that it plays in.

[00:38:42] It was not the exclusive cause of the problem and probably not the largest cause, but operating under the information at the time, it seemed to be a piece of the problem. So, and I'll let you get to that, but as of 6.48 p.m. on Monday, when, as you said, Henrico was on its own, was there a reasonable expectation as to how long we could be on our own without our residents losing water?

[00:39:04] Yeah, the hope or expectation among staff was that we could go perhaps 24 to 36 hours on our own. Now, you'll see when we get to the water loss issue, that assumes essentially a safe boundary condition.

[00:39:27] What we learned was things were so bad in the city and the system there so depleted, meaning the pipes themselves were emptied out. We had this extraordinary situation of reverse flow with the meters spinning backwards. water draining back into the city, which became one of the biggest aspects of the problem that proved intermontable. After 7 a.m., the Henrico Eastern System is down. By 822, leadership is

[00:40:06] announcing that we're sending our personnel down to the city plant to assist in any way we can with the now extended process. At 920, yes, sir. City not have on-call technicians to send.

[00:40:31] Mr. Cooper, I'm not aware of what their precise staffing was. I got the impression that this was more about lending anything we could do to help and perhaps wanting to have some eyes and ears on the problem so that we could respond as best as possible. Tuesday morning, 9 20, still getting reports of water production back early afternoon. That leads into the county's first main Prince conference at 11 30 a.m. where we had an expectation of seeing water production and

[00:41:06] delivery resuming sometime Tuesday afternoon. Shortly after that, 2-0-8, we were advised that water production had been restored and distribution would be resuming at 4 p.m.

[00:41:22] Unfortunately, those times, again, just would not hold. Shortly after noon, the first bullet notes that the DPU staff was investigating that possible water loss from reverse flow that I referred to.

[00:41:43] the Highland Springs break that Ms. Roundtree just asked me about. You see, that was repaired by 2.30 p.m., but we still had a problem. Meanwhile, at 4.01, we get more bad news from the city that an electric panel had blown out and delayed network to delay distribution to 5 p.m. By 6 o'clock, the reverse flow situation has been investigated. Mr. Chan is meeting with his senior staff and he orders that the city valves, the valves at the city

[00:42:18] line, be closed starting with the two largest valves. There's a 24-inch and a 12-inch major lines. These are at Laburnum and Mechanicsville Turnpike. That initiates a process of dispatching crews to find and close valves that at all other times are simply always open because we always want the water coming in. Staff works through the night. References early were made to the cold weather conditions and the constant 24-hour operation. In the wee hours of a Wednesday

[00:42:58] morning, the team, the RICO team at the Richmond water plant leaves with things looking up. Water production was up to 32 million gallons per day at that point, normal for this time of year is in range of 50 to 55 that trend continued a couple more hours production reaches 42 million gallons meanwhile the campaign to close the largest valves that was completed successfully by 10 46 a.m

[00:43:38] and it was just shortly after that that the health department informed henrico that a boil water advisory would be required in henrico as well so the staff goes about coordinating the necessary components of that, including the scope of the advisories and the information that's exchanged with VDH.

[00:43:59] We do get to 3.15, good news, water begins to reenter the East End through the SHRM station. And at 3.30, Henrico offers another press conference to offer the overall status, the steps being taken, and informing the public that oil water advisory will be in effect countywide.

[00:44:23] Throughout the day and into the night, the staff works to begin monitoring the incoming water, the pressure buildup, and reenergizing the system safely. Thursday, early morning, again, the monitoring is going on.

[00:44:44] By 4.50 a.m., Henrico DPU field crews, they're opening hydrants, flushing valves, purging air. This is the task of getting the water back through the system and the pipes that are now empty of water but full of air.

[00:45:00] So there's a big field operation to do that effectively and safely. A surprising event at 5.18 a.m., our staff picked up on this, monitoring the situation at SHRM.

[00:45:17] Henrico DPU staff finds that the pressure had dropped off, alerted Richmond. Richmond dispatched a crew to the Churchill pump station, which feeds the SHRM station, to restore the pumping there.

[00:45:33] And that's brought back in line, and we get pressure back by about 7 o'clock that morning. So a hiccup that, because our staff was really on the ball, avoided a bigger problem, an extension of the problem, by jumping on that and getting in touch with Richmond so that they could deal with their Churchill station.

[00:45:55] Mr. Chair, members of the board, and I apologize for interrupting, but a lot of memories as you're going through this timeline. That would have been the second time that county lost water from the city.

[00:46:15] And there's a potential. I mean, we found it. There's a potential that we would have been back to square one. And maybe that's a question for Bentley later. But as I was going, this was one of the scariest moments where it could have happened a second time.

[00:46:35] Chairman, that gets us to about 4.18 in the afternoon where we're on the upswing. We now have sufficient pressure in the system not to make all of our customers fully happy, but sufficient pressure that we're allowed to proceed by the health department with the water quality testing that's necessary to know that the water is clean and safe.

[00:47:03] So we take samples and set out on what's basically a two-day testing regime when you factor in the turnaround time on the laboratory tests, which take 24 hours for a bacteria test. At 11.08 that night, Mr. Chan updates the health department on testing progress.

[00:47:24] The team, again, works through the night to re-energize the system and fill tanks. And then that brings us into Friday. We're at 10 a.m. Even better news, we now have pressure restored in Central and Eastern Henrico.

[00:47:41] By 9.30 that night, the first 24-hour tests were back. The results were good and clean and reported to VDH. monitoring and re-energizing operation continues and then Saturday it plays out with a second round of clean tests the health department's concurrence that the boil water advisory may be lifted by the county which the county does at 11 30 and reefs county residents on at 12 noon thanking them for their incredible patience and understanding providing assurances that the county's work

[00:48:20] is not done. Just a couple remaining slides, Mr. Chairman, if I may. A couple things that I've put in a few buckets here because there are some obvious themes. Communications and cooperation.

[00:48:38] Communications was a challenge. That's kind of an unavoidable conclusion, and the facts really speak for themselves. RANCO would have lost water despite the information on this page, but the process obviously could have been much better, as you can read in the timeline yourselves.

[00:49:01] At several points in the presentation, we've talked about the lack of early notice of the severity of the problem and the likelihood of a prolonged outage. We've talked about the delay in the director-to-director notice.

[00:49:16] It was absent until Henrico initiated it. I'm sure we can all appreciate that Richmond was managing a very difficult problem in terms of restoring operation of that facility.

[00:49:32] We're only beginning to learn what happened down there and what was required, more will be learned in the future. So perhaps it's somewhat understandable that the problem was very difficult, but the effect on our end was that the reports proved simply to be optimistic and they repeatedly raised false hopes that we'd have water back. We'd have water back in time to avoid an outage in Henrico. Then we'd have water back in time where we could really minimize the impacts. Then it became apparent we just weren't going to have water back anytime close

[00:50:08] to avoiding significant impacts they were just unavoidable i'll say once everybody got together once people were coordinated i did see good cooperation in the record among the dpus in terms of sharing

expertise doing what everybody could with the supplies that were available to best serve the residents of the region even right down to arranging staff coverage and backup coverage the second weekend when another storm was anticipated so there are things that were done right along the way on a regional basis and I think those positives were worth mentioning

[00:50:47] there as well. A couple final slides to kind of summarize. First, limitations encountered within the Henrico DPU in launching this response. The risk of being redundant. The delays were just difficult and hard to manage. The estimates basically for whatever reason was going on in the struggle to restore water production at the Richmond facility, they were almost always

[00:51:22] wrong. The inherent difficulty in manipulating the Henrico system to do something that it was never designed to do, which is to deliver large volumes of water from the Henrico facility to the central and eastern areas. We can get some water there. Mr. Celia will speak to some of the numbers related to that and some of the options related to that in the following presentation I understand but the best I can say here is that I observe that the staff worked as

[00:51:56] hard as they could to do everything they could with the limited system they had. They did have some success as you'll see on the next slide which is not to be missed in the process. And lastly there's this reverse flow phenomenon where at the boundary line meters, meters that are just never closed, when the pressure was completely depleted on the Richmond side, everything we were doing to fight back using the supply out of the Henrico facility. It was being severely compromised by this reverse flow phenomenon that required a big manpower effort to shut down valves that really

[00:52:35] never need to be shut down. And lastly, benefits delivered. The things I see in the record as positives along the way. Despite all those challenges, restored service to approximately 6,000 residents in the central Henrico area by the battle that was waged by DPU. Less talk Less talked about because the problems were avoided was that three other pressure zones nearer to the Henrico facility that are normally served by the city, due to that proximity, three other zones were protected.

[00:53:13] As a bit of a sideshow, but critically important for a key hospital in the region, St. Mary's Hospital, DPU switched that facility from Richmond service to Henrico service with an emergency operation that kept the hospital supplied.

[00:53:31] And ultimately, all of this served to minimize the overall duration of the outage in the county by diligent 24-7 efforts. I'll say at every stage, early, mid, and late, that brought us all back. Mr. Chairman, that concludes my report.

[00:53:49] Of course, I'm happy to address any further questions now or later in the morning. Thank you, sir. Any questions at this point from my colleagues? Mr. Chair, just one question, I think. First of all, thank you so much for the thorough timeline on this.

[00:54:08] My question is, we were clearly getting bad information from the city and where that goes. But from 7 a.m. to 2.30, from 7 a.m., the first initial line staff were getting some communication.

[00:54:23] They had some issues. You said that that was a somewhat, I don't want to say normal, but two or three times a year that may happen. We took a draw. So between 7 and 2.30, had they told us at 10 o'clock or 9 o'clock, what could Henrico have done with that information?

[00:54:41] That may be a question later for Mr. Chan, if you can't answer it. But clearly at 2.30, there was an extreme concern by the city of Richmond. They weren't going to bring the plan online, and that's when the first teams meeting happened. But had that information been known earlier, could we have done anything else with that information?

[00:55:00] Mr. Chair, Mr. Rogish, what it appears to me we could have done with that information is essentially move up the response that you see in the record by that same increment of time. There is a kind of a natural waiting process for short-term duration outages.

[00:55:17] If the severity and anticipate, you know, the prolonged nature had been known, the larger, more aggressive steps that you see DPU ramp up Monday after that knowledge is out there, it appears that that could have been accelerated by the same period of time that we were otherwise in the dark. Now, would that have saved us an outage? The timeline was too long to have avoided an outage, but it would have saved us an increment of time, and the mitigation measures could have started earlier, and presumably,

[00:55:56] and now we begin to get into some technical aspects that I'm not perhaps the best authority on, but to me it makes sense that if mitigation measures start sooner, you get more mitigation benefits. Thank you. Anything internally built in that either permits or that makes a standard practice for any locality, including us, to go into the Richmond treatment facility when they call and say this is happening? I see at some point we just said we're going to do it. We're going to send our folks over there. What's the industry standard in that regard? Does that

[00:56:33] happen where we have that level of regular oversight? Mr. Chairman, Ms. Roundtree, I don't think it's an industry standard that we would have that level of oversight. Henrico County is a customer, a big customer. On the other hand, you might say just a customer. We're not responsible for running the facility. We're responsible for receiving water and paying for it in Henrico County. I work with a lot of other utilities across the Commonwealth and elsewhere. I have

[00:57:07] to say, thankfully, emergencies like this very rarely pop up. So while I travel a lot and visit a lot of places I can't say that I've had the occasion to ask that question but so often but even in the operations that I know pretty intimately I will say and I know utility directors all across the mid-Atlantic and many of them are involved in inter-jurisdictional arrangements of this sort I really don't see in my travels managers from the customer side being invited in and

[00:57:44] pouring over the inner workings of the producer side. I mean, it seems as if the general theme or what happened is something happened in Richmond. There was a hesitation.

[00:58:00] I guess I'll use that word. A hesitation for whatever reason, whether because it was a good faith belief that things were under control or whether it was an attempt to mask some of that. There was an initial hesitation to share with Henrico what was going on. And then at some point, it seemed as if, all right, well, you know what?

[00:58:18] Henrico seems to know we've got the resources, we've got the manpower, we're going to lean in to Henrico assisting, and at that point, it seems like Henrico kind of led the way in getting our folks in there. I mean, I see that Mr. Yob reported at one point, I think he was there for quite an extended period of time on that day, so is it the case that once we made that call and said we're going to get folks into that

facility, we're going to keep folks there and keep eyes on until we're comfortable making our own assertion and representation that that that facility is in

[00:58:53] a good place we stopped relying upon richmond to tell us that that was the case yeah ms roundtree yeah like it became a it seemed it seemed to me from what i've seen in the record that there came a time where number one we just wanted to know what was going on so we could understand the situation and help manage in henrico county and it seemed apparent to me through the record all the way through that Enrico wanted to do nothing but help with the city wherever it could.

[00:59:20] Now, the city, it does seem they called in a lot of outside help, including contractors and such to make things go. But I also see in the record where once there was a more open discussion across jurisdictional lines at the utility level, There were requests from Richmond DPU for recommended contractors that could come in on an emergency basis.

[00:59:49] A SCADA technology expert was one request. An electrical contractor was another request. So they were definitely pulling people in, and that's what I see in the record. And what I saw, and I hope that folks do take the opportunity to look at some of what you were careful to put in the appendices, and I thank you for that.

[01:00:12] I mean, it's jaw-dropping, even, frankly, Mr. Chan's call log. It's 10 pages of almost nonstop communication just on his call log. And I know that this is not the entirety of his text messages because I'm pretty sure I texted him, and I don't see my name on this.

[01:00:28] So this is just phone calls from the 5th through the 11th, all hours of day and night. And these are just, again, just in-person calls. And then you've got attachments of text messages. I have to echo the county manager's comments earlier. This is mind-boggling as to how much of a hands on deck is really an understatement.

[01:00:49] And then to know that for every communication that Mr. Chan was having, that then started a ripple effect of what everybody else underneath him had to do to implement that. And, I mean, honestly, it frustrates me because during this seven-day period of time, Henrico was focused on almost nothing else but this.

[01:01:13] And I just wonder when all is said and done, if the call logs and, you know, everything else is going to be mirrored by other localities. I'm glad and I'm appreciative and I hope we give all the awards and all of the things to Mr. Chan.

[01:01:32] But I really do. I really do hope that folks take the time to look and see exactly what was done literally hour by hour. So thank you for putting it in such a succinct report. I want to apologize, Bentley, for this call log.

[01:01:53] I had no idea I called you this much. Wow. This is a 5.54 a.m. telephone call, Bentley. 2.32, I saw your name. 7.12 a.m. 2.13? No, no, no.

[01:02:10] No, that's the county manager, 11.23 p.m. Keep looking. Keep going. Keep going. This is something else. Did I call you at 2.30 in the morning? Ms. Roundtree, thank you for alerting him to that. I really appreciate that. Yeah, this is, I got tears coming out of my eyes. This is sad.

[01:02:31] I just have one before we go, and then, Bentley, what transition? I just want to make one thing clear. My colleagues mentioned a few of the points I had, so I only have one remaining. And the defining

point in the timeline, and thank you for listing it like that, reading the report, is pages of timeline with detail.

[01:02:48] But when I looked at it like that, one thing definingly struck out to me is that At the end of this process, one of our key goals is going to be to establish the future reliability of this so this never happens again, right? That's a clear goal.

[01:03:04] Infrastructure, dollars, timeline will all come with that. But clearly the goal is to define that and the reliability piece. What stuck out to me is that when county staff had their hands and eyes on, information flow was better.

[01:03:23] It was trusted. It was, look, I say it all the time. I've said it way too much. Good data equals good decisions all the time. And likewise, bad data equals bad decisions. You know, here this county was advising our residents, our public, on information that we had clearly was incorrect.

[01:03:44] The information we were given was incorrect. Once we had folks on hand on site, that information flow was better. And I think what leads me, Mr. Manager, my fellow colleagues, is at the end of this, when we're all done, I'd like to remember that piece, that when our fingers and our hands and our eyes are on it, our residents can and should trust that we're going to have the best data to make the best decisions for them. And I'll bring that to point by asking this question. At 8.22 a.m. on Tuesday, staff was dispatched that direction. Is it safe to assume that they're

[01:04:19] on site within the hour, in the nine o'clock hour-ish? From 8.22, Henrico was sending management and staff to the Richmond facility to assist it doesn't say when they arrive but it's safe to assume that in the nine ten o'clock hour that we were there do we know that Mr. Chairman I'm not positive off the top of my head on the precise arrival that's the that's the three-person team led by deputy county manager Mr. Yob right and I know that was a board day Mr. Yob was dispatched to go handle this rightfully so so I will just say this to bring the point home on five at least

[01:04:55] five occasions prior to that arrival on at least five occasions 5 12 there was an expected restart at 3 11 a.m there was an expectation of production starting at 5 at 6 14 there was an advisory that pumps are operating pressurization to occur at noon at 6 31 a.m we'll have it running by 7 30 at 9 20 a.m we'll have water production in the afternoon once we were on site several different things happened. One, we identified a possible reverse flow loss. Two, the immediate order to

[01:05:34] close the boundary valves and further uphold what we could. My colleagues, Mr. Manager, I would just say that what spoke to me in the timeline is that these county residents, this board, this staff deserve to have hands-on oversight in whatever our end result is. Hands-on oversight in a critical asset such as water. When this county staff had critical hands-on oversight, we certainly were able to gain some traction. That's what I took from that. I'm good with that timeline and your

[01:06:12] presentation, sir, if there are no other questions for this gentleman at this time. Bentley, if you don't mind. Thank you, Mr. Chairman. While Bentley's coming up, we made a mention of some media that were here. Graham, I want to thank you for coming. Graham with the Richmonder and Sean Jones, I believe, with RTD is here. So again, thank you all very much for making time to be here. For my colleagues' information, there's another presentation to follow as well. Dan Seeley with WRA is here,

[01:06:50] also to the engineering. Is that correct, Mr. Mentley? Yes, sir. A series of recommendations that are being made that literally get to the point that you just made. Thank you, sir. Mentley, I'll turn it over to

my colleagues for questions, but I'll start by saying thank you. The stuff that we've seen in here is, we knew it.

[01:07:08] Thank you. Thank you. Any questions for Mr. Chan? I've got a couple if you don't mind. Yes, sir. First of all, I was just joking, but you know, I thank you again publicly for, literally, I think your phone log is indication that the manager told us that you didn't sleep.

[01:07:25] And literally, there's no way that you were sleeping when you were getting phone calls every hour for like two or three days straight. So you were available, and you guided your staff in this crisis about as good as anybody can.

[01:07:44] So I do want to say thank you. So I have a couple questions. So during the presentation, we heard that this happens a couple of times a year. So I think Ms. Roundtree, one of us, maybe Ms. Roundtree, who asked a question.

[01:08:04] Oh, no, maybe it was Jody. Yeah, Mr. Rokish, who asked the question, in these situations, if you get a call like this in the past that something has happened, we reduce our water intake, et cetera, at what point normally in the past would this situation have triggered something ain't right with this?

[01:08:34] type response and i guess i can ask you on that um on that monday like when did you personally feel like uh-oh this this might be a problem because based upon the timeline we had i got a couple other questions but i'm just gonna leave that one there so you can answer it i see the timeline of you communicating with our staff and you know encouraging them to send out information to make sure everybody was informed but at one point did you think this really may be a serious problem

[01:09:11] So, yes, sir. Normally when this happens, the plant is shut down for maintenance and we're told and we're told exactly what's going on and when to expect the water to be back.

[01:09:29] And most often it comes back within that time, maybe like an hour, an hour additional, an hour less. But it's never like this. We never get the something happened, it'll all be fine, it'll be back soon.

[01:09:47] And so after a few hours of our staff and us not hearing anything, we started to get worried that there's something else going on here. There's something that we're not being told. and and we need to we need to find out okay all right so next question so i've got two questions i'll just ask them together but they're separate things um tuesday was just a crazy day i think

[01:10:17] tuesday i know we were trying to figure it out we also were trying to depend on depend on what was happening at the water treatment plant while while at the same time trying to take care of our own residence i don't um we shut down at some point on monday or at some point on monday there was no more water flowing to us whether we made a decision or city made a decision we made a

[01:10:49] decision on tuesday to go full throttle with running the water from the west to the east i don't know if we ever done it before i know the pipes were smaller so if you can just talk to us from our perspective, what went wrong on Tuesday, because maybe we did waste more time, but we weren't getting water from this city anyway. So it's not like we made one choice over another. Talk to us about what was happening on Tuesday and the false hope, because it was

[01:11:27] false hope. We had a press conference at 1130 or 1230. We were telling people that by three or four o'clock water would be flowing. That didn't happen. That night, Supervisor Cooper and I were out there one of those big water main twisting the twisting the little things with you guys and we were hoping

that was going to be it that wasn't it so just talk to talk to us about what in your mind was going on Tuesday why why we made certain decisions to do certain things and then my second question is this so I won't have to ask you any more questions

[01:12:01] I really am confused you have relationship with DPU directors regionally all of them Richmond chesterfield hanover how is it that we can read um that your first conversation was at 2 30 on tuesday but there was a group chat a group chat created and yet you didn't get you and the

[01:12:36] dpu director from richmond didn't have your first text messages exchanged until friday so there had to be a mistake on on on that person's part maybe to put your wrong number in was this the first time y'all had ever chatted by text before did she have access you know did the director have access to your text messages i would just think that being that we were the biggest entity impacted that if you got a group chat going on and henrico's not responding in the group chat that

[01:13:13] something is wrong and i know you were talking to the dpu director by phone you know that part of it is just confusing, and that's not, you didn't create the group chat, so did you ever hear any explanation as to why you didn't have your first text interaction until Friday? So yes, sir, a couple of questions to answer, but I'll start with the most recent one. So the reason why I never received

[01:13:44] any of those texts was those texts were trying to go to my desk phone, and the public utilities director of Richmond, was trying to text my desk phone. And that had been going on for some time. And she had been alerted on several occasions by other directors, specifically in Chesterfield, saying, hey, I'm not seeing Bentley respond to any of these texts where you're asking questions. I think you may have his desk phone programmed into your phone.

[01:14:24] And I recall Mr. Yob and I were at Woodman Road later in the week where we were speaking with, I guess, speaking with the regional group where we had to remind the previous Richmond director that, hey, here are our numbers.

[01:14:46] And we were told, oh, we didn't have those. And it was like, no, no, you've had those. It's just that they haven't been used. And if you'll – I think in the report there is a text from me directly to the Richmond director that reiterates what my cell phone is, what Mr. Yob's cell phone numbers.

[01:15:10] But even with that, still did not get a – like did not get a text until later in the week. Okay. What about Tuesday? Oh, so yes, sir. So Monday – I'm going to roll the clock back a little bit.

[01:15:27] So on Monday evening, when the city supply ran dry, we were of the impression that the system was filled in the East End, that we had enough supply to last us at least 24 hours.

[01:15:44] And so the prevailing thought was that we hold, we fold and hold everything that we have and we can kind of parse out that supply and shouldn't see any difference in usage from residents or customers.

[01:16:04] and that coupled with what we could pull from the western part of the county through those lines we believe that well if you have a little bit coming in pressure here pressure here you can hold it all together and what we didn't know was that meters again meters that normally run one way started running the other way, and two of the biggest ones that you had seen Tuesday night,

[01:16:36] water was flowing back, flowing back into the city, and so once we closed those, you recall, I had called you, I had texted you to let you know that we were seeing pressures up to 30 PSI in the

Laburnum Avenue area.

[01:16:56] And so into Wednesday, we were making a progressive march through the Laburnum area all the way up to Fire Station 7 and the Lenn Avenue station, which Mr. Promeroy had mentioned was the key to getting water into the greater Eubank zone.

[01:17:18] And so water was – we were able to get water in and restore service to 6,000 customers, but the amount of it wasn't enough. And so our hope back kind of Monday night into Tuesday was that, hey, if we have water, if we're holding water here in Greater Eubank and we're pulling some water from the west, that could serve us for the time being in waiting for the city of Richmond's plant to get back up and running.

[01:17:56] I just want to read something real quick on the report. I'm going to read the whole paragraph and then I'm going to make a statement. In January 6, 2025, during the storm event, the power of the WTP supplied by Dominion Energy went offline, requiring an operation of the plant's two backup diesel generators.

[01:18:20] At the time of the power outage, three waterworks operators were managing operations. No other staff were present. No electrician, no instrumentation specialist, no maintenance specialist. They could not manually form it to close the valves.

[01:18:37] Is that a correct statement? Is that a correct statement that you wrote? Number four. Mr. Cooper, yes, that's all quoted from the Virginia Department of Health. Those are their findings. The three operators did not or could not manually operate valves to prevent the flight. That statement to me says that this could have been prevented if the proper personnel were present. Is that correct statement? That seems to be what they're implying. Thank you.

[01:19:03] Mr. Smith made that comment, good data equals good decisions. I would argue it works until it doesn't work. So we entered into this in 1994. It's been 31 years. It didn't work. 348,000 residents in Eriko, 68,000 residents in Fairfield District.

[01:19:19] Ms. Manager, I don't really have any questions for Mr. Chan. I just have a couple comments, and I'm concerned about my residents. I'm concerned about all residents in the county, but we know how this adversely affected the eastern portion. Lack of trust in communication process, lack of trust in competency, lack of transparency, lack of hiring of supervisions, checks and balances.

[01:19:40] There has to be a legal way where there's more control in this process for us more than purchasers. That's my statement. Secondly, I want to make sure, because when my residents call me about this, almost 70,000, I can't say to them, it's Richmond, it's not Henrico.

[01:19:57] We have to figure out a way that we have 100% reliability on our own without having to depend on someone else. That's the first thing. Secondly, there has to be some legal recourse that we can have where we can have more input into the process of oversight and not just as a client, a purchaser.

[01:20:16] Ms. Manchin. Mr. Cooper, Mr. Chair, members of the board, I hear you loud and clear. Now, out of every crisis, there also may come an opportunity. So in 1994, this county made a series of decisions that up until this water crisis served us well.

[01:20:37] But this water crisis, I think, has changed a number of things. The fact that we have the ability now to provide water not just to our residents, but to other localities in the region. We have the state's

largest reservoir now that is being put into operation.

[01:20:58] That is going to create some significant opportunities, and I dare say there's also an opportunity maybe for Henrico to provide water to the city of Richmond. I mean, those are all of the things that, when Mr. Seeley presents his engineering report, lays a plan forward that if this board follows, with the first infusion of cash coming in the next capital budget that will literally be presented to you within the next several weeks, we have a generational opportunity to do something, this board does, with the resources that you have because of the crisis that you were confronted with.

[01:21:37] And so there's always an opportunity in this case, I think, you know, as I heard Mr. Pomeroy's information, as Mr. Seeley presents his recommendations and conversations I've had with members of the board and the business community, I think there is a yearning for stability in our region when it comes to something basic like the provision of water services.

[01:21:59] And I certainly hope that in the weeks ahead, this board has the clarity and then puts forward a series of steps to make that actually happen. Thank you, sir. I have one question for Mr. Chan and then one for Mr. Pomeroy.

[01:22:18] Mr. Chan, so in reference to the statement that Reverend Cooper just read as far as what was not in place at the Richmond plant, is it fair to assume that how we run the three-chop plant looks differently? What is the staffing that we have around the clock there?

[01:22:35] So, yes, ma'am, we do have staffing around the clock. And we actually have not only backup staffing at that plant, but backup staffing in our Woodman Road operations facility that can be moved over should there be any issues overnight.

[01:22:50] So kind of like double staffing. And we heard it. We didn't hear this word today, but we've heard it, the term redundancies and the concern about redundancies not being properly in place in Richmond.

[01:23:07] Even before this, can you just speak to the level of redundancy that we have in our facilities so that if something happened in our facility, how quickly we could respond? So, yes, ma'am. In the report, you will see that there is a power outage at our raw water pumping station, the one that's off of River Road, off of the James.

[01:23:39] And what had happened was that it didn't switch over automatically to generators, but our staff, we were looking at it. We understood that, hey, something's going on. Get people out there immediately.

[01:23:56] Our staff was out there immediately and got it switched over. And so that's what's supposed to normally happen. And we have backup generators at all of our facilities that when the main feed, the main Dominion feed, goes out, that it switches over to the generators immediately.

[01:24:17] And we can see all of that from Woodman Road, from the water treatment facility, from the water reclamation facility. And so it's all monitored. It's all monitored 24-7. And case in point today, inclement weather, our staff went through, made sure that all of those switchovers could work, all of those generators were filled.

[01:24:40] And, I mean, we have staff out and about and also at our facilities just making sure that, I mean, knock on wood, nothing happens. But when it does, we're ready for it. It just occurred to me that you probably shouldn't be here right now.

[01:24:56] You should probably be out making sure we have water. Thank you, Mr. Chan. And Mr. Pomeroy, a question for you. Ms. Wendry, can I give Mr. Chan his same question? What's the comparable size of our water treatment plant in the West versus the city?

[01:25:12] And how many people prior to this situation, January 6th, would you have in a water treatment plant in the West, like working at a particular time? So our plant is a 80 million gallon per day plant.

[01:25:29] And I believe, and I may need to check this, that Richmond's plant is 132, so not quite double, but maybe one and a half times our plant.

[01:25:46] So how many people would you normally have? Do you have like an electrician on staff? Yes, sir. So we have a team of electricians, a team of mechanics, as well as a team of like kind of technical specialists who who look at the like the control systems.

[01:26:08] And so they're all available. We have a rotation where they're essentially they work like 12-hour shifts and they're on a rotation so that people don't get burned out. And so you work your shift and then you go off and then you come back and other people work in those in-between times.

[01:26:32] And I don't mean to belabor this or beat this dead horse, but I think this is really important because at 827 on Monday night, Richmond texted the three county DPU directors reporting a problem and asking for a recommendation on who to fix their SCADA system.

[01:26:49] And then again, at 5 a.m. on Tuesday morning, Richmond texted the three county DPU directors asking if they could supply electricians at daybreak. So, again, you're talking about two systems. We talked about how we have resources on staff, but they didn't even know who to call, frankly, and they asked for your help.

[01:27:07] And I guess my only question is we do have that list of contractors for us, right? Yes, sir. And I will also say I did not receive those texts. Correct. Yeah, that is highlighted in here as well. Thank you. That's frustrating. Mr. Pomeroy, I meant to ask this earlier.

[01:27:24] I apologize. So, going back, independent control, and just to reiterate, you started this at the outset. So, your firm was retained because you were asked to do an objective, neutral, very factual-based accounting or audit of Henrico's response, correct?

[01:27:43] Yes, ma'am. And I see that you have a whole paragraph dedicated to the independence of that. We're not guided in what the conclusions were to be. Seemed to be more of a one-way street receiving information as opposed to giving information at the time that this was being conducted.

[01:28:02] Is that fair? Yes, that's correct. And you're an attorney. This is a law firm, so you guys have ethical obligations that you have to follow regarding the credibility of your work product. Is that right? That's absolutely right. In your analysis, not just of the timeline, but in the communications, including text messages and staff interviews,

[01:28:23] Was there anything in your investigation that suggested remotely that geography, and by that I mean the demographic of people residing in the East End versus the West End, had any impact whatsoever on Henrico's response?

[01:28:47] And let me phrase that. Geography, certainly because the Three Chop facility is in the West End. I'm speaking specifically as to whether there is plainly any indication that the fact that the

demographic makeup of the East End is different than the West End, East End lost water, West End did not lose water.

[01:29:04] Anything to suggest that there was any disparate treatment at play? Nothing to suggest any disparate treatment. If there was any disparate treatment at all, it was just a Herculean effort to move water to the East and mitigate the problem that resulted from the Richmond failure.

[01:29:22] So it was an all-out effort from day one with nothing but the highest level of concern, the constant effort at the highest most levels in the county. I did not review outside of DPU, but obviously communications on something of this magnitude go all the way to the manager level and the board level.

[01:29:43] You see nothing but top to bottom in the org chart and in RICO County of an all-hands response. Anything to suggest that at any point there was any even consideration of, for example, in order to keep water on in the west, we'll sacrifice water in the east?

[01:30:00] None whatsoever. I just have three things for Bentley, and then I think, Mr. Manager, I think we can move on. Bentley, I just want to touch on a few things that were mentioned here today.

[01:30:18] Can you talk about St. Mary's time? If I understand it correctly, it's 648-ish water, quote-unquote, ran dry. But if I understand it correctly, we restored water by flipping a hospital. Was that a trauma one care center?

[01:30:36] I believe so, yes, sir. Flipped water and had them back up and running within the hour? Yes, sir. And so what was done was there were boundary valves in that area that we know to close when there's a water main break.

[01:30:54] And you may have seen that we did have a water main break on Monument and Bremono. where, thankfully, because of those valves were closed and we were serving St. Mary's from Henrico water, that it wasn't as impactful.

[01:31:15] To hammer that, the reason I ask that question for folks who are tuned in today who I know are interested in this, was VCU, were they experiencing, the health center, were they experiencing water issues? Yes, sir. And the critical point of if St. Mary's were to lose water as well, what that would do?

[01:31:34] to the safety and security of our folks? So it would be very detrimental. And like in my call log, you'll see that there are a number of calls to St. Mary's doing that coordination and making sure that they were in water and in the situations where they would be briefly out of water, we were doing the coordination to make sure that they had the best information.

[01:32:03] Thank you, sir. Second point, can you talk about any conversations between this county and the airport? So, yes, several conversations, alerting the airport that this situation was going on and updating them, as well as conversations between the airport and Mr. Yob, updating them through the back half of the week.

[01:32:28] And so in addition to that, efforts by emergency management to shuttle tankers to the airport to keep them in service and planes coming in and out of the facility.

[01:32:44] That airport is a regional amenity, is it not? It is, yes, sir. Thank you. And the last one, sir, is you humbly glossed over this, so I want to come back to it. Two o'clock on Tuesday, January 7th, did we lose power at our water treatment plant?

[01:33:00] I believe so. It's 2-16. Yes, and so we did lose power. I believe that's the incident that I was speaking of before. And so we did lose power, but our staff knew what to do, knew to go to the facility and do the changeover to a generator.

[01:33:27] Evidence by the 6 million gallons of water that was produced that day being more, 6 million gallons more than the day before, even a loss of power didn't slow down the operation? No, sir. With the backup generators, we're essentially able to run like it's being fed by the Dominion feed.

[01:33:47] And we have two redundant Dominion feeds to that facility as well as to the wastewater plant. You had that plant back online by what time on Tuesday? So shortly afterwards, 5.15, and I'll close with this. I can only imagine your heart palpitations for your five calls that were between 2.16 and 2.48 that afternoon, knowing the lack of production on one end with a power failure at the other end, and then the seven calls that you took between 5.15 and 5.55 that day when it was back up and running.

[01:34:21] Yes, sir. Any other questions for Bentley or as far as this presentation goes? Thank you, Bentley. Thank you, sir. Appreciate it. Mr. Manager. Mr. Chair, members of the board, I'm going to ask Dan Seeley with WRA to come forward.

[01:34:37] Dan has engineering analysis and some recommendations for you to consider as you go forward. So, Dan, first, I just want to thank you for the quick turnaround on this work and the clarity that it may provide the board.

[01:34:54] Thank you. Thank you, Mr. Manager and Mr. Chair and board members. My name is Dan Celai. I'm with Whitman Rackwart and Associates, a consultant engineer here in Richmond. And we were tasked at looking at the availability to provide additional flow to the east end of the county.

[01:35:11] Here is the scope of work that we were assigned. Gather and review your existing data on your pump stations, your wells, as well as review the data from the January 6th through 8th water outage. In particular, the SCADA information and how the system reacted to the outage.

[01:35:28] We came up with options for additional supply to the east end, and we developed planning level cost estimates and timelines for those options. Those are all summarized in the report, and I'll be summarizing that report in this presentation.

[01:35:45] I know some of this information has been covered before, but I'll quickly brief through some of the current water supply summary for Henrico County. You have your facility at Three Chopped and Gaskins, sources the James River. Again, it produces 80 million gallons per day.

[01:36:03] I'll be referring to million gallons per day further in the presentation as MGD. Your Richmond Water Treatment Plant, you have a contract with the City of Richmond, as has been mentioned, through 2040. That capacity of that plant is 132 MGD, and you have a contractual obligation for maximum water that you can take from the city of 35 MGD.

[01:36:27] You also have four former wells in the east end that were in operation until the early 2000s. They are not in operation currently, and I've classified those as unusable just because they are not currently permitted for that amount of withdrawal, and there's additional treatment required to bring that up to current treatment standards.

[01:36:49] This is a schematic of your water system, and the upper left corner is your water treatment facility, which provides the majority of the flow to your water system. And you can see the different

pressure zones are shown in blue, whether that's the three-chop central pressure zone, west broad pressure zone, et cetera.

[01:37:08] The red circles represent the locations where the city of Richmond supplies Henrico County with water, and you can see in the west end, water is supplied by the city at TCH, which is three chopped high zone, the west broad zone, which is WBD, and the river road zone, which is RRD.

[01:37:32] In the east end, the city supplies Laburnum Azalea pressure zone, as well as the greater Eubank pressure zone. Mr. Promeroy showed this map image in his presentation. I just want to emphasize that the pipeline sizes have been adjusted to thicknesses, represent larger transmission mains and pipelines.

[01:37:52] You can see the east end and the west end have significant distribution, but you can see in the Laburnum Azalea zone in the middle of the county is where there is a bottleneck of large pipelines, which creates the lack of ability to produce all that water across to the east end.

[01:38:10] Focusing in on the east end and what happened on the January 6th, as I mentioned, the water treatment facility provides flows to the Three Chop Central Greater Hermitage Zone. Normal operation, the city supplies your water to your Laburnum Azalea Pressure Zone and the Greater Eubank Pressure Zone.

[01:38:31] With the ability in an emergency through the Wilkinson Road PRV and the I-95 Brook Road Valve to allow some flow from Greater Hermitage into Laburnum Azalea. As Mr. Pomeroy and Mr. Chan, and if you heard, the operations group did monumental efforts adjusting valves within the distribution system, operating pumps, operating at the water treatment facility.

[01:38:58] In the west end, for instance, the west broad, the three chopped high and river road pressure zones, which are normally fed by the city, through efforts of operations, they were able to be provided supply from your water treatment facility and no loss of service.

[01:39:13] In the east end, the Laburnum Azalea Pressure Zone is primarily served by the city of Richmond, as is the Greater Eubank, and through operations closing of valves, as has been discussed, of reducing the amount of water that went into the city and opening those two emergency valves, we were able to maintain or restore service to almost 6,000 residents in the east end.

[01:39:40] I want to spend a little bit of time talking about the constraints to the east end. So as Mr. Promeroy mentioned, the system is not designed to convey full demand to the east end to a large transmission system to meet the contractual requirements of your city agreement.

[01:39:58] The east end is fed by the city of Richmond. This is the most economical way of providing flow to the east end in lieu of providing large transmission main across the entire county to the east end. I mentioned the capacity restrictions into the Bernadalia Zone.

[01:40:15] Can I ask you a question, sir? I'm sorry. Yes, Reverend Cooper. No, that's Reverend Cooper. Oh, sorry. So you just made an absolute statement. It's not designed. Are you going to explain why? It goes back to the economical of building the entire transmission main from the western part to the eastern part.

[01:40:39] The city water is available at a more economic cost to the residents there. Okay, so it's cheaper for us to get water from the city than it is for us to build out the whole system to the east. And I'll get into further on the improvements. On the logistics part of it?

[01:40:55] Okay. So the restrictions, I mentioned the PRV at Wilkinson Road can get 2 million gallons per day through that connection and 1.1 MGD through the Brook Road connection. So during that event with the county operations group, we were able to get 3.1 MGD into the LaBernam Azalea Zone.

[01:41:18] In the Laburnum-Azalea zone, there's a 2MGD demand currently, so that water was consumed by the residents in Laburnum-Azalea zone and leaving 1MGD to be pumped to Greater Eubank, which obviously did not meet the requirements and was not able to keep Greater Eubank in service.

[01:41:37] I mentioned the former wells that are in the eastern part of the county. You can see the listing of the wells here in their capacity, a total of 4MGD capacity if those wells were fully permitted. and brought online, as I mentioned before, they would have to be re-permitted at this point as well as additional treatment required at those wells to make them drinking water quality.

[01:42:04] So we'll get into the objectives that we looked at for our report, and we identified three objectives. First, short-term supply. The average drinking water demand in Greater Eubank is 7 million gallons per day.

[01:42:20] So we looked at options to get 7 million gallons per day to the Greater Eubank Zone. Midterm objective is to provide 21 MGD to the Greater Eubank Zone. And what that 21 MGD does, it fully replaces the city supply to that zone.

[01:42:38] So you would have absolutely no reliability on city supply. So that 21 MGD would be able to fully supply what the city supplies today. And then the long-term supply, looking at 40 mgd, meets your long-term growth projections in the east end.

[01:43:00] So with that, we'll get into some of the options, short-term options. Option A gets 7 million gallons to the Greater Eubank Pressure Zone. It involves construction of 54,000 feet of 30-inch transmission main from your Greater Hermitage Zone through your Labernam Azalea Zone into Greater Eubank.

[01:43:19] And, again, it gets you 7 MGD to Greater Eubank, 2.2 million gallons to Burnham Azalea. Cost is \$117 million. And a timeline for engineering and construction, five to six years for implementation. And to be clear, that only meets the average daily use.

[01:43:38] Correct. Is, Chair, just for perspective, 54,000 feet is how many miles? Is that 10, 9, 10? 10-ish? Okay. 10.2. That's following existing pipeline, just literally creating a 30-inch pipeline as opposed to a 2-16s that exist today.

[01:44:08] In addition to the two that are there today, is this adding the two that would remain in capacity and add a 30? Another short-term solution, as I have mentioned with the wells, this is able to get you 4MGD, which does not meet our objective of meeting the average day demand of 7MGD, but repermitting of those wells could accomplish a 4MGD supply to Greater Eubank with a cost of \$20 million in a timeline of three to four years to repermit and design the treatment required to bring those wells back online.

[01:44:47] Mr. Mancha, can we just, like, quick pause? First of all, if we did this, we would still have to get approval through DDH, right? Correct. All right. And DEQ. So I haven't heard anyone really mention that we did look at the wells, or maybe I missed it.

[01:45:04] We did look at it. So we did. We looked at it and had a conversation with VDH. They would not allow us to activate the wells. The wells were tested. There was no bacteria in the wells.

[01:45:19] But the way we treat the water in the west, the process that we use and what we would have done in the east would have meant we had different types of water in the system. So VDH did not. I just wanted to make sure that we mentioned this here in the public form because that was a possibility that we didn't talk about publicly.

[01:45:40] But, again, at one point we thought it might have been a possibility for it to happen. And what Mr. Celia is showing you also, this would be an emergency option. So we would not, with the wells, they would not routinely be used.

[01:45:55] But in the case of an emergency, you could potentially go down this road. Again, we're just exploring, but it will be one of the things that we look at. Looking at your midterm solutions, and again, this would get you 21 MGD into the Greater Eubank Zone and 5 MGD into your Labernum Azalea Zone, fully replacing the city supply.

[01:46:22] You could be fully reliable on county water with these demands. This requires construction of 70,000 feet of 48-inch transmission main through the greater Hermitage zone, Laburnum-Azzalia zone, to your greater Eubank zone. So significant pipeline cost, a bigger pipeline cost to meet the increased demand of 21 MGD.

[01:46:44] And you can see the cost is \$328 million with a timeline of five to seven years to design and construct these facilities. And is that 13 miles? Doing the math right? 70,000 feet of 40 inch, 48 inch, 13 miles.

[01:47:03] And again, the difference here is 48 inches versus 30. Longer extension all the way down to the bottom, past Sherm, right, through you back. And that gets you full reliability to supply the entire zone without anything from the city.

[01:47:20] Covers daily use, covers our storage needs, removes the need to draw from another source. So time frame, though, short and medium are the same, pretty much. You said 5 to 6 for the short, 5 to 7 for the medium.

[01:47:39] And those objectives, we broke those down more on the amount of demand that we could get to the zone, not necessarily a timeline. That's the way we started, but when we looked at timelines, short-term and medium-term became the same.

[01:47:54] We also looked at adding additional wells in the east end to supply your 21 MGD. And basically, with the Potomac aquifer and constraints already put on that aquifer, it's not feasible to permit that amount of capacity from additional wells within the county on that aquifer.

[01:48:23] So this option, we looked at it and investigated it. It's not a viable option at this point. So long-term option A, this is meeting a 40 mgd supply to Greater Eubank, including projections for the eastern part of the county, demand projections, as well as 10 MGD to Labernam Azalea.

[01:48:47] This project involves, again, the construction of the 48-inch transmission main, which we had shown previously in the midterm option A. That would still be part of this option, but we're adding in a 42-inch transmission main to feed the Labernam Azalea zone.

[01:49:06] And the cost here is \$583 million, but I will point out that \$328 million of that option is already in your midterm solution option A. So this could be potentially a phased operation building on that option, midterm option A.

[01:49:25] And, again, the timeline here is six to eight years for engineering and construction. Mr. Manager, question for you. Is this for those who are on whale water? Does this help? It absolutely does.

[01:49:43] Mr. Chan and I have had that conversation, sir. This would extend utilities. Either of these. The one, the short-term, 48-inch that we talked about, and this one. I'm sorry, mid-term. Mid-term. Mid and long-term. Not short. Mid and long.

[01:49:59] 21 MGD options. Yes, sir. Another long-term option that we investigated was development of a new regional 40 million gallon water treatment plant in the east end.

[01:50:15] We did look at potential withdrawal from the James River, but the location of the city of Richmond's wastewater treatment plant outfall and Henrico County's water reclamation facility outfall prohibits a construction of an intake due to the locality of those two wastewater treatment plant outfalls.

[01:50:35] So we also looked at other potential source water, whether that be the Chickahominy River or the Pamunkey River, again, more regional. Again, the sources out of those rivers is limited. And, again, additional study would be needed to see if even 40 million gallons could be obtained to those additional rivers.

[01:50:58] And you can see the cost here for a new water treatment plant, \$1.3 billion, and a timeline of 10-plus years to construct. Again, these estimates are planning estimates based on a cost per gallon for construction of a new greenfield water treatment.

[01:51:23] So quickly, in summary of the options is the summary table. As we mentioned, a short-term option to get 7 MGD to Greater Eubank and 2.2 MGD to Laberna Mazzelea. Again, this just meets your average day demand.

[01:51:39] significant 54,000 feet of 30-inch transmission main, and some minor upgrades to the Lenn Avenue pump station in order to pump that 7 million gallons to Greater Eubank. We mentioned short-term option B of well permitting does not meet the 7 MGD, and as Mr. Manager mentioned, that it is, you know, an emergency use for supplying that zone. Mid-term option, the 70,000 feet of 48-inch transmission main gets you 21 mgd greater eubank and the 10 mgd laverna mazzalia completely supplying

[01:52:16] both pressure zones for a significant time into the future and then ultimately the 40 mgd for long-term planning looking at building on that midterm option a by adding another transmission main to increase that capacity to 40 mgd greater eubank zone and the laverna mazzalia zone and then a long-term option for a new regional treatment plant although not off the table it is an expensive option and an additional source would have to be required for the development of that water

[01:52:52] treatment. I certainly would like to Mr. Chair and the board members any questions that you may have? Thank you sir. Any questions to my right? I do. So it seems that all of these options are focused on circumventing or supplanting the county needing any water from Richmond right?

[01:53:17] And maybe this is outside the scope of what you've done, and maybe it's a political question. Was there an analysis of what it would look like cost-wise or what would be required to instead, perhaps, assume by there is an existing water treatment facility in Richmond, it just isn't functional, or it's not functional to the level that it needs to be in order to be reliable certainly to our standards um probably requires work that may not be in richmond's

[01:53:56] budget or ability to fix um let me take a stab at that so um it's 11 49 at 12 30 i'll actually be having a conversation with uh the mayor our chief of staff the interim city manager that's one of the topics that will be discussed, a number of options that are there for our county.

[01:54:23] That's one. You know, the other that was discussed is what do we do to become totally self-reliant? And then another being what if we become the provider of water, you know, and stability for the entire region. So all of that in conversation.

[01:54:42] So you're off the hook, sir. Thank you. So just to build on Ms. Roundtree's question, though, so am I to assume that if you have a meeting at 1230, those who you're having a meeting with already know what the subject matter is?

[01:55:01] Yes, sir. So this is nothing out of the blue that they're going to read, you know, from the multiple media persons who are here that Richmond, Dan Reichel is trying to bat a Richmond plant? No, no. I mean, it's far too early for that. This would be a very complicated transaction.

[01:55:17] It would require at least two willing parties, maybe three, if you include Hanover County. But, you know, having the discussion, and it's really time right now to have that discussion and see how far it goes. It could be something that resembles an authority that owns that one asset.

[01:55:42] All of us are partners. Yes, sir. We have examples of that if you look at some of the James River Juvenile Detention Center with what we do with Powhatan and Goochland, other examples with regional jail agreements that we have in place. And so let's have the conversation and see where it goes, but this board also has two other pathways following.

[01:56:02] So can you give us, and this is five of us, so this is my thought, if after 1230 there seems to be another conversation that follows up, Can you give, can a cost analysis be done so that we could also have that as a part of our decision making?

[01:56:26] That's the intent as we go through the, into the capital budget. But first there has to be a willingness on that other party's side. And, you know, it has to make sense for each locality. And, you know, the conversations that I've had with the mayor have really been, you know, There are costs that the city of Richmond has for its combined sewer overflow system, and I think those are \$600-plus million.

[01:56:59] The enterprise funds of the city have possibly \$900 million in debt. If the city was to replace the water treatment plant by itself, you know, are you talking about \$300 million?

[01:57:16] And all those numbers become very large. And so it may be a significant weight on the city, but is there a solution that makes sense to our ratepayers where collectively we come in and do something together?

[01:57:31] And that's the conversation that we'll have. So we entered into the County of Enrico under the county manager leadership of Virgil Hazlitt, who is still here with us on earth.

[01:57:52] Robert Bob, who's still here with us, representing the city of Richmond, they, on behalf of the institutions they represented, entered into this 40-year water agreement. Yes, sir, 50.

[01:58:08] 50? No, well, 94. I thought the contract ended in 2034. 2040. 2040. So there's 40. This is five years. Oh, wow. Okay. I'm sorry to interrupt. Yeah, no, no, no.

[01:58:23] So there are options to get out, I'm sure, of the contract, of the agreement. At some point, it's 2024, so whatever we decide to do or we decide to go on our own, we'll be ready to go before 2040.

[01:58:40] So there are options, you know. There are only options. I know the attorneys are getting a little nervous with some of this conversation because we do have an agreement. But, you know, I've also, and members of the board have gotten questions about, you know, we've had a number of water main breaks recently that seem to be increasing.

[01:59:01] Why? Partly because the system is not designed to be dry. And when you re-energize the system, there's a hammering effect that could occur. You know, is part of the conversation with the city of Richmond, look, as a customer, do you now pay us for all the effort to make the repairs that we've had to make?

[01:59:20] I don't know, but I think you go into it with some sort of intent, but also understanding that you come from a position of strength as the largest customer of the city of Richmond, who also, by the way, has capacity to do more with water.

[01:59:42] I mean, I would just throw in there to your point that because it would be the same parties, the two parties to the agreement, assumably, would be parties to any new either authority or what have you, so that would, it should supersede. And, you know, if we come to an agreement, then I would think that the least of the concerns would be, well, technically we don't, this does not contractually obligated.

[02:00:05] I would assume anything we agree to would supersede that contract. Just a quick question. So based on this presentation. I do. So, you know, from everything that I've seen, you know, you're going to have a capital budget that is going to be presented in the next couple of weeks.

[02:00:26] So step one is we have a project that Dan actually put forward. My mind would be around the 21 NGD option where you put in the biggest pipes that you possibly can.

[02:00:44] You meet not only the average daily demand, but the maximum demand that you have at 21MGD. That is a \$328 million project. I am being told that we can do that project within the 5% rate increase that we have had each and every year to support all of the infrastructure that we have, and we do so as quickly as we can while we continue to work on these other options.

[02:01:17] At the very least, that 21 MGD option will also get you some additional capacity for water extensions in the east as well. And that's something that the board can talk more about during the capital budget, but I think you have an opportunity for action.

[02:01:34] So Cobbs Creek, you have additional capacity or ability to draw water out of the James River. And water is the resource that everybody wants right now.

[02:01:53] if you look at some of these localities in the west. So, you know, we've had some initial conversations with Powhatan County about getting them one. We have had some initial conversations with Charles City, New Kent. Hanover is literally right down the street and is also a part, you know, a customer of the city.

[02:02:17] Could they also be part of some regional effort or ultimately become a customer of the county? You have a resource in Cobbs Creek where you have the ability to sell water, and that is going to be key, I think, going forward.

[02:02:33] It is a very smart economic play, and it could be that this crisis has given us clarity as far as, you know, how valuable that resource is. It's very important. Mr. Manager, so we've talked a lot about Henrico as a customer of water, but I know that our residents are customers of water from us as well.

[02:02:56] So what are we comfortable saying, and you alluded to it a second ago when you said that your recommendation falls in line with a 5% increase that was already in line. I think what our residents would like to be assured of is that they're not going to see the pain in the pocketbook because of this water crisis, at least to the extent possible for this short term.

[02:03:21] And like you said, we've got some really big numbers here, so I know that we can't forecast indefinitely. But I do think that folks want to know we're not going to be paying more very soon because of something that a lot of people don't feel was our doing. Absolutely.

[02:03:37] So there is, and the county has planned on these annual increases of 5% for water and sewer. That basically takes care of all of the infrastructure that we have. It pays for the largest reservoir in the state, the assets that we have.

[02:03:55] This would be phased in over time. And so the intent is not to do anything outside of what was already planned. Already planned prior to this happening. Prior to this happening, yes, sir.

[02:04:11] Prior to this happening. Does that answer your question, Ms. Roundtree? Mr. Ruggish? No, I guess my only comment is that those are big numbers. And my comment to the city would be, you know, if they can't get their act together and if we can't make a deal on that side, and if they want to come to us and we want to enter an agreement, great.

[02:04:36] But if not, then we're willing to protect our citizens without the city of Richmond's water treatment plant. That's my comment. So I would say we give them an opportunity, and then we move forward. So this is just a general comment.

[02:04:53] 100% of my non-well water users were impacted by this. So everybody in Verona that didn't use well water was impacted by this. We can't do this again. We can't go through this again, even now.

[02:05:10] You know, I told somebody earlier today, I have a certain level of anxiety until it stops snowing. Every time it snows, that this will happen again, and it can't happen again. So I'm all in.

[02:05:27] You know, regionalism has been a part of what has worked in our region for the entire time I've served. I'm all in on a regional water authority. I really want to look at exploring that. If all of us can get in, if we can have our people at that water treatment plant, I would feel so much better than I do right now.

[02:05:47] But if it doesn't work, we have to make a decision now to go on our own. Ultimately, residents of Verona, it'll probably be a split. For those who don't want to see any residential expansion, then they would not want to see water lines expanded throughout Verona because they're going to equate that to housing.

[02:06:13] But for the ones who are on well water and want the opportunity to be on sewer, sewer and water, they will appreciate this expansion because then it won't be on them. So it's definitely something that, you know, I'm looking forward to.

[02:06:32] What's your name again, sir? Dan Celay. Yeah, Dan. You answered the question earlier. You was like, it's cheaper to go with the city of Richmond. That kind of gave me, I didn't like the way that sounded. So, you know, cheaper may have been, it may have made sense in the past.

[02:06:49] but we've got to do what's best for the entire county now. It may have been better for us 30 years ago, but clearly we see there are huge ramifications when you just go the cheap route. So I think we need to do what's best for Henrico County right now.

[02:07:08] We need a future, future thinking as we always do in Henrico County. So let's do what's best for us. Sir, any other questions? I just have one question, sir, and then I'd like to, Mr. Manager, I know that we're coming up on your meeting time, and I think you've exhausted the questions from what I can see.

[02:07:26] So I'd like to just round it up and make sure my colleagues are in agreement with some next steps after action, next steps and where we go from here. The question is, can you bring up the map of the midterm option 21 MGD? It was mentioned that this county has the water supply.

[02:07:42] Look, the vision and the execution of Cobbs Creek and the capacity we have to pull out of it tells us that water resources are not the concern, right? That the water itself is not the concern. It's the ability for us to transmit and distribute that water, right?

[02:07:58] And my question is this. Based on this map and the Henrico County water system map, which we'll flip back to in a second, it was discussed that this county would have the resources and possibly the desire to be a regional provider. We literally can put our arms around this and both give our residents the consistency and reliability they're demanding and rightfully deserve, while also providing some support and consistency to our neighbors.

[02:08:23] So my question is, based on this map with the 48-inch improvement, now flip back to the existing, it's called Henrico County Water System. There's a really, really dark blue line there that obviously tells me that's our main feed. Does this midterm plan, the 20MGD, give us the ability to route water to the north?

[02:08:45] I know it gets us to the east. Does it allow us to come off this new feed to the south, to the city, and to the north to Hanover? Yes, it's a beltway through the county. So, you know, the county supply up 301, the transmission main would cross that. So by improving this to the Peyton, and I'm sorry, I'll name it wrong, the Peyton PRS at 48 inches, that will give us the thoroughfare, the interstate, to then have the ability to meet the capacity of our northern partners and our southern partners, being Richmond Nano.

[02:09:15] And depending on what that capacity is. The reason I ask that, and I'm sorry, I'll get to the point, is I would not be in favor of doing something like this and then coming back and going, well, how do we now make a branch if we're going to put it in the consideration now so that we have the capacity? And I loved the discussion earlier about potential growth. We know what the East End, we know what Mr. Nelson's been doing for a decade and a half, and we know the good work he's going to continue to do out there. So meeting the need doesn't meet my satisfaction. Meeting the future need does. So that's my only question. I guess to round up, and for the benefit of my colleagues, please add if I missed it, but I was trying to take notes

[02:09:55] as to what we would ask of the manager moving forward because we we got the question i've got it this morning what all right after you get that action what's next what are you going to do and i would say this one a part of that needs we obviously are awaiting the city report we need information on the viability future and prognosis and recommendations for that particular plant i don't think we can make the best decisions good data good decisions without knowing what is the viability and long-term plan of that plan we know our western plan is 2004 edition what is the what

[02:10:30] is the richmond plant year creation do you know 100 years old so i i would say the first thing is we have to wait that city report and my understanding is it could be april 1st from what i understand is that correct um i've heard uh third hand that there may be a release late this week actually within the city hanover is actually releasing tomorrow all right so as a part of our next steps mr manager i know you're going on a call i would ask that be part of the checklist of things that we continue to ask them about. We need that. The second thing is, I would ask you to have staff continue to fine-tune the details that we've been presented here today. Make sure cost estimates are

[02:11:07] good. Make sure timing is good. Make sure supply chain is good. Make sure it meets the criteria of reaching all the parts of our county that we would need. I would imagine staff, in the meantime, can be doing that. The third thing, the third ask is for you, sir, and I know we're coming into budget time, to put financial solutions to this. You would not have made that recommendation if you hadn't done that already. But I would say that this group needs to now, Mr. Nelson hit it perfectly. We understand the financial implications of this, and we'd ask for it to be fine-tuned and made sure. We have to compare that against what Mr. Nelson said about what it takes to fix that plant existing now, and if it's their responsibility, if they're going to pay for it, and we're going

[02:11:46] to continue to be a buyer with confidence, or if we're going to partner in the investment and take credits on dollars later, or if we're going to manage it and be a supplier, those have to be incorporated into a cost analysis i'm sure you know that and then the last thing well i appreciate the recommendation and i actually i would i will say that i agree with your assessment to right to me right now that's the best route because of the capacity but also it gets us towards a future growth of 40 all the work that could be done towards that it you can it's additive right there's an additive property at the end which is why i would concur with that assessment

[02:12:21] but i would like to measure that option against the upcoming alternative options of of like mr Nelson said about a partnership, because that truly, to me, is the decision of the best service to our residents. And I love what you said about our region. If we are able to provide for the region, well, and we have the capacity to do it, that's an option for us. So to measure the alternatives against what the Richmond study says and their plant restoration on cost on timeline, I think timeline matters as well. Not only would it cost to get their plant up around them, but if it's a 22-year process, well, I don't think we have that kind of patience. You know, I would agree

[02:12:59] I would agree with all my colleagues' statements today, and I tried to summarize it there for action items. Where do we go moving forward? Because that's what our residents are going to ask of us. And I believe awaiting for the city report, sir, fine-tuning the details and the pricing and the options that we have, putting financial solutions next to the option that you presented, the recommendation today, and then measuring the options that the city comes up with to see if there's a viable alternative, if it's going to be sole-sourced or if it's going to be some type of part.

[02:13:22] I think that's the pathway forward for us, as well as I see it. Any other comments, questions from my colleagues on that? Mr. Manager, any thoughts on that? Mr. Chair, I appreciate the feedback, and that is exactly the direction that we are proceeding in.

[02:13:40] In fact, in two weeks, the county is going to release the budget two weeks ahead of schedule. So you're going to have a budget proposal two weeks ahead of when you actually start reviewing it with the agencies.

[02:13:59] What that does is it buys us some time the week of the budget hearings, And then whatever information we have, we can talk about during the DP budget presentation. You will have clarity, I certainly hope, by the third week of March as to which way to go with these options.

[02:14:22] But you also, you have flexibility. You have one of three options that follow. And I certainly hope that at the end of the day, you know, I've heard many, all of you say, This can never happen again.

[02:14:41] So at the end of the day, what do we need to do to make sure it doesn't happen again and that we take care of the water needs of the county going forward for many, many years? Does that answer your question, Mr. Chair? Yes, sir, it does. Any closing comments by my colleagues before we have two housekeeping items to close with for our group?

[02:15:01] Anything else? Two things. One, for the folks who are in, first of all, for those in person here today, thank you for spending your time. Again, to staff, thank you for what we knew to be and what we have got validation of. to be heroic efforts incredible what that group has done to the folks that are dialed in i realize that today is a public meeting and our doors here were public our our virtual access to this meeting is public i think that speaks to what this county's transparency policy is as we discuss these issues in public and we've received the information from our from our consultants as our as the public does i also realized that a work session

[02:15:39] is not there's not an opportunity for public comment so for those that were dialed in today i'm sure you have questions and i want to make sure we address the fact that you still have direct line to us i would offer two things one um our emails are come directly to us so again it's varina at henrico.gov fairfield at you know the district at henrico.gov please know that if you have questions we will get you answers and if you have solutions and and input feedback but we have we we are happy to take them please feel free to continue to contact us directly on this we do read then review all those and we will get back to you and we will find staff we'll find the answers from

[02:16:13] staff that you need number one number two i would say please encourage following our county's social media platforms you saw the alert on the news today about joining our emergency alert system please do so that is how we can communicate best with you please follow the county's facebook instagram twitter feeds as well as ours so we can help share information with you and communicate directly with us and then number three budget hearings are coming up and budget hearings are public and we welcome your attendance your input your feedback at those as well those are all public meetings so again please feel free to continue to reach out to us directly as you

[02:16:50] always have the ability to and again please follow the counties our ways to communicate with you are through those platforms so please take that seriously lastly i will leave with this we have a board meeting scheduled for tonight i realize that we have no windows in here i do not know how how how white or fluffy the ground is outside yet but we're certainly going to find that out this board is committed number one to continuing the people's work but number two we're committed to doing it safely so i i will say that this board this this kind of manager mr manager we will ask you and we'll inform our public that within the next few hours i would hope in the three o'clock four o'clock window we will we will make a decision if we're able to safely

[02:17:25] operate that meeting this evening or if it'll be postponed per um i think it's virginia it's our it's a week. So the policy is a week if it is postponed. So folks, again, another tip to follow us on social media to follow along based upon our meeting decision for this evening. Again, anything else from my colleagues?

We hope to be in touch with you in the next few hours with regard to our meeting scheduled for 6 o'clock this evening. Thank you all very much, Mr. Magic. Thank you.



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