

# Austin Water Oversight Committee Meeting Transcript – 04/19/2021

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.>> Kitchen: We'll come back to the speaker after we do that. So we have -- let me call it to order. I'm calling the Austin water oversight committee meeting to order at 1:00o # 02 on-- 1:02 on April 19th. First we need to approve the minutes of the October 28, 2020 meeting of the Austin water oversight committee. Do I have a motion? Motion from councilmember Ellis. Second from councilmember pool. All those in favor say aye? All right. Approve those minutes. All right. The second set of minutes we have to approve are from the March 3rd and the March 31st meetings of the Austin water oversight committee. I guess we'll take those together. Can -- do I get a motion

[1:03:57 PM]

from approval from councilmember Ellis, second from councilmember pool. >> Pool: And I have one comment to make. >> Kitchen: Why don't you go ahead and comment. >> Pool: I noticed that even though those were a joint committee meeting of Austin energy and Austin water, it talked about us convening and adjourning and convening the other oversight committee, but the first one just has one general convening and one general adjournment even though they were the same, at least in our minds. So I don't think it has any structural -- makes any structural difference, but I wanted to note that even though we conducted the meetings the same way both times, they were memorialized differently by staff. >> Kitchen: Okay. Do you think we should make an edit there or do you think you just want to note it on the record? >> Pool: I just want to note it and let's pick one

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way or the other so it doesn't get confusing for people in the future. Which I know we're not planning to do, but when and if we do that we should be clearer about it. >> Kitchen: Okay. Heather, that's a note for you. Thank you. All in favor? We have in front of us a motion to approve the minutes of the March 3rd and March 31st regular meeting. We have approval from the committee members with vice-chair -- councilmember Fuentes off the dais. So we're going to start first with our citizens communication and we have one speaker, James Peterson. And I believe Mr. Peter John is from -- Peterson is from district 10 if I'm understanding correctly. >> Yes. >> Kitchen: Mr. Peterson, if you want to go ahead. >> I just got a [indiscernible] Right at the same time. >> Kitchen: We can hear

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you. >> Looks like we may have to come back to Mr. Peterson. He just dropped off the call for some reason. >> Kitchen: Why don't you try and get him and we'll wait just a minute.

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>> Chair kitchen, I can attempt to call the speaker. He seems to disconnected himself inadvertently. >> Kitchen: Please do, please call him. >> Okay. We have him back now. >> Kitchen: Hi, Mr. Peterson. Please go ahead. >> Okay. I apologize for that. I don't know exactly what happened, but these technologies are always a little bit weird. I was going to talk about wastewater averaging and the freeze issues, but I got a call this morning from Jessica at Austin water and she explained everything they were doing and everything seems fine there. They're doing a great job.

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She explained it all carefully and I understand all of that so I don't really have anything that I need to talk about on that. But originally back in November I had wanted to talk to the oversight about a billing issue with the way that the rate structures are set up, which is really more of just a comment on it in terms of when rates are to be adjusted in the future you might want to consider a different aspect of it. And I didn't want to impose that on the freeze, which is why I've held off over the last couple of minutes, but if this is an opportune time, I would discuss that. >> Kitchen: Yes. You have another couple of minutes, so go ahead. >> So I G my October bill and it seemed fine, and then I got my November bill, and the November bill had gone

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up by 40 something bucks. And I figured okay, well, I probably changed things. But of course everything is identical with the exception of the water service & my electric is entirely separate. This is just water, wastewater and street cleaning and so forth. And all of the things are the same except water. So I figured okay, so I guess my water usage went up substantially and that's why I'm paying an extra 40 bucks, like a 50% increase in water charges. But when I started looking at that, my water usage had actually only gone up from 10,000 to 11,000, almost 12,000. So it had gone up by like 10% and yet my total bill was up by 40, 50 percent. And that seemed strange. So I started looking at it in more detail, and I agree with the general policy that they're from multiple tiers and the tiers, of course,

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are if you use more water, you get charged at a higher rate, just like with the graduated income tax. People who use more pay more at a higher rate. But I actually didn't use that much more. It turns out I did move from one tier to another tier and so I finished out tier three of -- going from 4,000 gallons to 5,000 gallons, but that's at \$7.51 a thousand gallons so that was an extra \$7.50. And then I used a little bit into the next tier, 800 gallons at 12.70/1000 gallons. So that's like 10 bucks and it is at a higher rate, which is good, but it didn't explain the difference. And when I look at the differences and try and figure out where it's actually going, there is this strange thing called a

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tier fixed charge and the tier fixed charge seems to be misnamed because it isn't fixed, it actually varies depending upon which tier you're in. So it's fixed within a tier, but not between tiers. And going from, what, tier three to tier four or five to five or whatever, it jumps from nine dollars to \$29. So there's a 20-dollar increase if you simply move from one tier to another. And of course, moving from one tier to another could be the result of just one extra glass of water or a shower or flushing the toilet one time. One gallon more is all it takes to move from one tier to another. And that extra gallon could end up costing 20 bucks. And I can understand the

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idea that as you use more you should be charged more but that seems excessive. And it's not something that really as a user I can control very much. I'm not sure exactly I'm at one tier and going into another or whatever. >> Kitchen: So Mr. Peterson, Mr. Peterson, we only have a limited time for communication, so we're past your time, but we do want to follow up with you. So I hear what you're saying, you're raising questions about the way the tiered structure is set up. So I think we can get back to you with

more of an explanation about why it's set up that way. And then we're hearing your concerns that perhaps it's too much after jump. So -- >> In general it seems like if you're trying to discourage usage, encourage conservation, what you really want to do is make sure that the marginal costs

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for each additional unit charge increases over time but in a linear way. And what you've got here is a spike function at one particular value. And actually every time you change from one to another. And you want to avoid spikes is what I'm trying to say. >> Kitchen: Well, thank you very much for your comment and I would invite you to email us and we will also follow up on this with you. Thank you for bringing this to our attention. We appreciate that. Councilmember Ellis, did you want to say something? >> Ellis: Thank you for recognizing me, chair. I wonder if we could get that response if we get questions from our constituents and there might be something about advanced metering infrastructure, the Ami that we've been piloting that might be of help to consumers to have more information as the month continues. >> Kitchen: So

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Mr. Meszaros can you send us an email and we can be sure to share it with Mr. Peterson? Can you do that for us? >> Yes, chair, we'll follow up on that. >> Kitchen: Okay. Thank you very much. So now we're going to turn to our briefing. Our briefing today is what we are going to have opportunity today is to have more time for discussion. The last two meetings we've had have been time limited and we've only had a relatively short amount of time to ask questions and talk with Mr. Meszaros and his team. We do have longer today. We do have two areas we're focusing on, the first one being communication, the first one being infrastructure resilience. So what I'll do is we'll break in between the two so

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we can have a conversation and we can talk about each topic. So Mr. Meszaros, I'm going to turn it over to you. >> Thank you, chair kitchen. You're exactly right. Two winter storm topics today, communication strategies and tools that we used and that will be presented by assistant director Randy Jenkins. And we've organized the content for roughly 20 to 25 minutes of content and then up to 30 minutes or more of discussion. So I think ample time to probe these areas. And then following the communication discussion while be protecting infrastructure resiliency and assistant director Shea will be looking at that and some of the way we plan infrastructure assessments, how some of the infrastructure performed during the event and some thoughts about some areas to focus on in the future. So two main topics with the

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winter storm today and with that I think we're ready to start with communications and I'll turn it over to Randy. >> Good afternoon, committee chair and councilmembers. Great to talk with you this afternoon. As director it Meszaros said, I am Randy Jenkins, overis seeing our customer experience program area. Today I'm going to cover Austin water's communications during winter storm uri. Next slide, please. So as a bit of today's overview I'm going to cover our winter preparedness messaging, emergency notifications, overall customer communications and our associated next steps and follow-up to the winter storm. As I move throughout this afternoon's slides I will not only discuss our messages, but the communications that were utilized during this event. A main component that we used and our strategy in developing our messaging was

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listening to our customers throughout constituent. We used questions that we received not only directly from our customers through our social media and email campaigns, but also those that we received from your offices and from your constituents. So we used those throughout the event to shape the content of our communications. Next slide, please. So really to dig in to kind of the initial response to the event and really kind of gearing up for that winter preparedness prejudicing, we began winter weather prep messaging on February 9th and on February 10th we posted a media release as well as updated our website's landing page and pushed out information through the social media channels. So this included tips for freezing and subfreezing temperatures for our customers, conservationry minders about collecting any daughter from dripped faucets inside and outside the home.

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And lastly, but certainly not least, how to locate a property's owner shut off valve so in the event of a burst in their home they knew how to shut off the service to their home so they did not have any flooding inside. So a bit to dig into there. The after action review that has been lighted not only through the councilmembers, but the city's after action review and our own, we will be revisiting the winter preparedness messaging. I think one of the things that we learned throughout this event is that while one of the key activities that we always promote during a normal central Texas freeze that typically lasts up to two days is that we encourage customers to drip their faucets, but given the substantial storage that was lost in our system due to private side breaks or

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public side breaks, we know that's not sustainable going forward. Practice. So with that being said we'll collaborate with other utilities for best practices. I know there was certainly this was felt across the state of Texas. 1.7 million residents experienced some sort of water disruption statewide, so coordinating with other utilities across the state about how we would best communicate what to do and how to prepare for a winter storm will be key. So that will be forthcoming. So I'm going to cover two different components of our emergency notifications. We utilize two different systems to get the word out about our boil water notice when that was enacted. So the first of those was the warn central Texas system, which is often referred to as our reverse 911 system that capcog manages. As you are likely aware,

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landlines are automatically enrolled through the 911 system into this notification system. But residents must subscribe to receive text messages, cell phone calls, Robo calls or emails. So that is a difference there. Customers do have to take an action to subscribe if they want to receive that information through their cellular device. That said, there are 1.1 million contacts enrolled in the central Texas Austin area and we utilize a system in two different points within the emergency event and that was to announce the boil water notice on February 10 '17th and to also rescind the boil water notice on February 23rd. And to the right of the screen on the slide there is a screenshot of what that notice looked like in a text message format. Next slide, please.

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So the other system that we utilize is the my atx water customer portal. And the substantial difference between the portal as opposed to the reverse 911 system is that our portal does not require a customer to sign up for this service. We have the ability to directly message our customers that are contacts within our billing system. So our account holders within our billing system, if we have a cell phone, email address, we are able to produce Robo calls, text messages and emails. So a little bit of a highlight about how that was utilized, we sent out just short of a million email and text messages during event. And I know there's been a lot of discussion about how long that took to get those messages out. And we've done some digging with our portal vendor, and

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on average there were 1800 text messages sent per minute so that equates to a little over 100,000 texts per hour. And we have right at 250,000 account holders in our billing system so that gives you a sense is that over a couple of hours text messages were sent out to our customer base. Likewise emails averaged

665 emails per minute, which equates to about 40,000 emails per hour. So again, emails did take a little bit longer than a text message, but those were still able to be sent in a relatively short amount of time. So the other area that this portal was utilized is for those that are enrolled as part of our pilot, our Ami pilot that actually have Ami meters installed at their address, this portal was also able as you may recall from prior presentations and

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assistant director Coronado pointed out in his last presentation is that there were several customers who did receive and had a pilot meter who received our alerts for both continuous usage alerts, which is defined as a 36 hours of at least three gallons or more per hour that was registering on their Ami meter. And so as an update there, there were 4,190 alerts based on on that hourly continuous usage change and that equated to about 2,000 account holders. So based on that we are able to have some insights as to the open rate for that information and about 62% of the customers that were sent that alert opened that alert that was sent to their registered address or account. And then on the leak alerts, that's actually providing a

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burst, a high spike in usage is defined as anything above 750 gallons per day or more. And 200% above their seasonal historic usage. So in that case there were 4500 alerts that were sent out indicating a burst of some sort. And so throughout both of those different leak and usage alert types we did have an overall 32% customer satisfaction rate through their feedbacks and comments back to us through our portal. So while it is a small pilot and customer base, overall they were happy with our activity there. Next slide, please. So moving into our customer communications at the onset of the boil water notice, we began providing routine every 12 hour operational updates. And this was just to provide

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some routineness about when our customer base might hear from us. We provided these operational updates throughout and we're key in producing our updates to our customer base. And so as a part of those that were posted both on our website and our social media updates. As I mentioned about the comments that we received throughout the event just to quantitate that, we received over 15,000 comments and direct messages through our social channels. And those questions fueled a lot of our responses in our updates and highlighted things that customers were concerned about, questions that they had about how the system worked, what was a pressure zone and those sorts of things. We used that to update our frequently asked questions, and all of those documents and our forms were updated and translated in Spanish, Vietnamese, Chinese and arabic. Gnat to those activities

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we've -- in addition to those activities we also produced an interactive online map that would allow a customer to look into their pressure zone and understand which pressure zone they were -- they resided in and understand the boil water notice impacts and whether they were still within the boil water notice or outside ever and could go back to consuming on a regular basis. One item to note there is that we did have significant technology issues throughout this event, you know, as we had power outages and other technical issues, the city's website did crash and due to the high volume of customers hitting that website, we had another second round of failures with our online interactive map and we clocked closely with ctm to get that stood up in a timely matter and were able to do so. That is an item of note that we'll be further digging into in our after action review to understand how to prevent that sort of website failure in the future.

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And then the last thing that I wanted to note here on this slide is our critical customer communication. So as y'all are aware, we did coordinate very closely with critical facilities and hospitals throughout town to best in the how we were coordinating with the tceq and when they could expect to be back in service and/or be open for business and taking in customers and at the hospital facilities. Next slide, please. So to continue our customer communications, we stood up outbound Cal system, but prior to that I do want to talk a little bit about our inbound calls. So Austin water's customer service center, which is also referred to as our dispatch team, they take calls 24 hours a day everyday throughout the year, 365 days out of the year they are open for business 24/7.

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So a typical inbound call volume for that team is taking calls from residents is usually around 50 calls per day. During the winter weather event that team was receiving more than 10,000 calls per day. And similar to our website, we also experienced significant failure in our phone system. So in addition to Austin 311 call center being taken offline we also had the same failure with our phone system and taking it in through dispatch. Again, we worked closely with ctm to get that too stood up as quickly as possible, but we did have notable challenges there where customers were experiencing extremely long wait times. There was also times that customer phone calls were being merged due to these technology glitches. And so to help rectify that we stood up an online

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customer intake form that was also available in multiple languages, and through that online form alone where we could hear from our customers and they could let us know what service distribution they were experiencing, we received nearly 30,000 requests in over four days. In addition to help remedy that and provide some point of contact for our customers, as I noted we did stand up an outbound call team, a virtual call center, that was staffed with over 60 Austin water staff volunteers as well as 24 city of Austin staff volunteers. I can't say enough good things about the work that they did to help us during this event. They contacted customers for not only service requests, but also in the aftermath of our community recovery and apartment complex checks. >> Next slide, please. So to round out my presentation, I wanted to talk a little bit about our

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next step and immediate needs and kind of our action items that we'll be taking. So I mentioned our outbound call efforts. We will be continuing that effort. In fact, prior to this event, we were piloting an outbound call effort in which when a customer would call us indicating some sort of service disruption or inquiry, if our Austin water field staff were not able to contact that customer while they were there on site in the field, we would follow that service request ticket up with an outbound call. So that was an existing pilot that we really expanded during this event. And so that outbound call effort will continue and we will continue that pilot and to evaluate that and grow and expand that program. Additionally, we are going to continue our online customer intake form. That is still online and on our website, active today, and will continue in that

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way. And we've already talked internally about a lot of ways we can improve that customer intake form to make sure that the information that we're receiving from customers is accurate and that it interfaces with our appropriate asset management and service request forms. But that does exist and will continue to exist going forward so that we're prepared -- not only for daily business, but in the event of a future emergency. I did highlight our interactive map. We are working with our I. T. Services group, internal at Austin water to stand that up. You know, recognizing that while this event was a pressure zone event surrounded around a boil water notice, we do recognize the need to expand that interactive capability so that at any given time, individuals can review that and understand if there is a larger service issue or if that is just something that that individual customer is

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experiencing. So that will be online soon. At the beginning of my presentation, I did highlight that we are revisiting winter preparedness communications, collaborating with other utilities and would also note that we will also be collaborating with the Texas chapter for American water works association alongside those other utilities to make sure that we're putting the best practices in place. And then as I noted, we had substantial issues with our phone system. We will be looking into what type of enhancement that phone system needed and/or potential other vendors that can help us in that realm so we do not experience that sort of issue again. And then lastly, what I will note here is that we will in fact be conducting an afteraction repurely for customer communications, looking at what we did and how we can do better in the future. And in addition to

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coordinating with after-action review at the citywide level, as well as internally with our water/wastewater working group. That concludes my presentation, but I will open it up for any questions that you may have at this time. >> Kitchen: Okay, if you could take down the slides, that will help us see each other. >> Okay. >> Kitchen: So who has questions? Go ahead, council member Fuentes. >> Fuentes: Thank you. And thank you for the presentation. I really appreciate that staff was able to respond be to the emergency in realtime and creating the intake form and getting that process up and rolling. And putting up the map and that was very helpful. So I appreciate the flexibility there and the adapt ability to respond in times of crisis. There was a point during the event that I want to address

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because what I received -- the feedback I received from my community was that at one point I had posted I received communication from Austin water to post that we did not expect a boil water notice. We didn't expect an impact to our water system, and then the very next day, less than 24 hours, we were in a boil water notice. And a lot of frustrated e-mails and calls came in. At one point they asked me why did Austin water lie to you? And so it was really disheartening for me as a policymaker because I didn't have anything give them in communication. So some of the questions I have are around the communications piece. Because that is such a critical factor, especially when we're dealing in a crisis in realtime and having to provide updates in this digital age to our community.

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So I guess can you talk to a phased system that triggers a certain level of communication and education regarding prevention? I know you referenced that some social media messages went out around conservation ahead of the storm, but is there a phase in that Austin water uses to guide them through that communication strategy? I'm trying to get a better sense of how that is planned and executed,

especially in time of crisis, and what is the strategy behind that? If you could speak a little bit to that. >> Absolutely. So to kind of step back and kind of address the unfortunate -- where customers felt like we were not being honest or forthright with what was happening behind the scene, but to address that, one of the reasons why we put out that communication about we weren't experiencing issues in our system -- that was true in that moment. We weren't.

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We weren't aware of any systematic failures at that time. In addition, we were getting word that customers were receiving notification from false companies. I don't know where this information was coming from, but they were saying Austin water was under a boil water notice and at that time that was not factual. So we put out that message to really provide that assurance that there wasn't an issue. Customers didn't need to boil their water at that moment. And then subsequently did go into a boil water notice and did have that cat a involve you can failure -- catastrophic failure and that is really to that point about the timing of that issue. We were trying to calm the waters, assure customers that if they were receiving that notice, that that was not from Austin water, and to kind of help address that. To your other point about a phasing system, that will be something we dig in further in our after-action review. That is something we have talked about internally. What are those triggers in a

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future event such as this that we would highlight at what point do we trigger which messages. And there is also a regulatory requirement that we were well within getting out our boil water notice within that regulatory requirement timeframe, but even saying that recognizing the need to always be on our toes and be ready to push out that message at any given moment. I don't know if that addressed all your questions or if you have any follow up? >> Fuentes: I was trying to think from a communication standpoint. That we should put that clause that you might not know if there would be annum pact to our system, right? So that when we're communicating we still give ourselves that room for the unpredictable and the unforeseen. Because as you can imagine, it's just so frustrating for individuals who we know are without -- who can see the writing on the wall that we're going to be under a

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boil water notice and just want to prepare. Just really coming from a sense and a feeling of how can we best prepare myself and my family in the midst of that crisis. >> Absolutely. And I think one thing if I can just add on to my thoughts there and then I'll open it up to anyone else that might have thoughts. I don't know if direct Meszaros has anything to add, one that that I know will prepare us in the future is our Ami project. As our smart meters are installed, that will give us insight to system wise issues at the

customer level. Our last point of information is really at our storage levels. And so at the time when we first initially started to receive calls or intake forms highlighting that customers were out of water, we really at that time continued to believe that they were likely experiencing private-side breaks which could have been true, but I think there just wasn't that sense that it was at that systemwide

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impact -- certainly in the outskirts of our service area. >> Fuentes: Thank you. >> I would just add, I think Randy is hitting on some of the topics that there is some additional insights into system use that will get within Ami that will give us better tools to communicate. I think that there is some lag in the way we get operational data and how that translates through to our Pio teams for communications. We need better tools to forecast where our system is going and some of the dynamics, particularly during an emergency or under intense conditions when things can deteriorate rapidly. If you experience maybe a large transmission failure or unusual freezing conditions like we were in, things can change very rapidly. And we need a better system internal to Austin water for how we take operationalized

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data and use that to drive forecasting and communications strategies. And that is one of the after action items that we'll be examining more closely. As a matter of fact, I would expect in our budget submittal for '22, you'll see some recommendations already to start to strengthen that ability at the utility. So we have some miles to go here still. >> Kitchen: Okay, I think council member Ellis had a question. >> Ellis: I do. I have just a couple of questions. We had touched on this briefly in other meetings, but some best practices for individuals who find themselves without water suddenly -- I know this may not necessarily be Austin water's regular protocol, but knowing in an emergency people are only refreshing their media to look at energy and water information, and is there a plan to have information

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about, for instance how much drinking water should each person in your household have available? Bathing, people with infants, not potable uses -- is there an effort being made to try to have some sort of approved information for individuals who want to be better prepared if something like this happens again? I think you're muted. >> Sorry. Yes, absolutely. You know we've started to have those conversations internally about what will our message to the community be and how can we strengthen their preparedness in addition to our own preparedness and how we communicate that. We've talked about it potentially be just community-based meetings where we go out and talk about what that interpreparedness might look like in the event of an emergency for water needs. But I think we'll certainly dig in deeper and further and refine that approach throughout our after-action review.

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>> I would adjust a little bit more. Obviously that's going to off homeland security management. It's really more of a community preparedness strategy, and so certainly I think we can be a big part of that, providing additional guidance for how much water -- typically maybe you should store in gallon jugs or other tools. You know we did that during the 2018 event. There was a lot of questions like how long should I boil my water? And that's one of the things we pinned down and did some videos. I think we'll be doing more video content for people ahead of particularly something like a cold weather event where better tools to show you how to turn off your water at the curb so you can reduce the risk of a pipe burst happening and certainly those actions will be taken. >> That makes sense and I appreciate that, and I know that obviously it's not just about water. There are so many other nuances, too, about how to

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survive without power for certain periods of time. I see that that could be a collaborative effort. I think it would be helpful for us in some capacity to be able to give people that information just so they are not trying to find it after the fact later. I think we just want to overshare and make sure people know what are approved guidelines and if you have to survive without energy or water for extended periods of time, what you need to take into account sooner than when it's off. Because I think that's what caught most people off guard. And my other question is about the technology. I do appreciate the slide on how many types of e-mails you were able to send out and how -- what methods you were able to utilize. Do you know of any developments happening to try to make sure that texts and e-mails can go out faster? I know that those numbers are really high. To be able to get how many out that you did each minute, but just knowing how long it might take to get to a city of a million people,

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I'm just curious if there is other technological advances other people are working on? >> We'll be looking into other technologies that may exist in our after-action review, but I will say we have already contacted our vendor through the my atx water portal and they are looking into it. They do have other Texas customers, Texas utility customers, and so that is a question that not only we've asked, but they've been asked by other utilities about can this be any faster? And so they are looking into that. And we do hope to hear from them soon and will be populating that information into our after-action review. >> Ellis: Okay, that's good to hear and I just think of some of the apps that are out now where all of a sudden you get the alerts the second an alert goes out. That could be something we look at as well.

Sorry, director Casar rest, I think I cut you off. >> Know, I think you are hitting on it. Too. Our Ami portal was still

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experimental. It is still in the pilot phases. We really pushed it beyond its design parameters with this storm event and it's something we're going to continue to work on and make investments in and I hear you, council member. I think chugging out the text even at 50,000 an hour, you know when you have a million people, it's got to be faster. We'll be working on that. >> Ellis: I appreciate that. Thank you. >> Kitchen: Council member alter. Disbla thank you. >> Alter:thank you.I appreciate the presentation. I wanted to delve a little deeper into the online outage and I don't remember what you call it for Austin water. I had a little bit too much with the Austin energy outage map from February 11th O. But for the Austin water one, I appreciated your pivot when people are trying to call in that you did the online form of reporting, but one of the challenges we kept having was that people didn't know

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if the outage had been reported because it didn't make it to your map until they -- you had gone out there and checked it. But you couldn't go out changed very much. So a lot of the extra volume and a lot of the calls we were getting was because people couldn't see it was roorntd you were wear of it and where it was in the process. Tell me about how you're planning 20 fix that in the future. >> That's one of the eyed types that we're reviewing with our I. T. Services team to see how we can fold that portion into our interactive map and to also not create errors in our service request tickets. Additionally, to also reply back to the customer when they submit that form, you know, just acknowledging hey we got this. So I think those are direct improvements that we're planning to make immediately. So we're not waiting on our after-action review to finish that as a go do item and we're working on that

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now. >> Alter: Thank you. I appreciate you guys doing some of these things that can be done and not waiting for the report and a go ahead. I think that's important. You also mentioned you know the messaging on dripping and then how that didn't work as planned or whatever. How do you balance in the communications the notion that if you don't drip your pipes are going the freeze which is what we saw when the water went out with that kind of shift in messaging and how are we thinking -- because the communications question was also an operational question because now we have a lot of people who have to deal with the aftermath of frozen pipes because they weren't able to drip because there was no water, but it seems like if they had turned off the dripping -- I don't know if those people turned

off yore drips or not. If they did turn off your drip they would have had frozen pipes. How do we address that issue? >> It's certainly a tough one to untangle, and we will

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be coordinating closely, not only with other utilities as I mentioned, but also through our technical review and after-action review to drill in deeper about how we might bet coordinate that. It's kind of Luke the perfect question, perfect storm almost, if you will, that the one thing we do to prevent those things is the one thing that kind of led us into -- down the trail of an emergency situation. So we will be looking into it. >> I'll add a little bit, too, and Randy used the word untangle, because you have to make some difficult choices. And a short-term freeze, it's okay to drip faucets where you are knee a freeze event for 24 hours or 0 hours, which is typical here. Put this long-duration freeze event which was over a week -- which is something we haven't experienced for a very long time, if ever that long -- dripping faucets

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over that length of time uses too much water. And sometimes -- you don't want the choice -- it's tough choices, but we do not want to dewater the system again. And that was one of the water uses that was substantial was the dripping. We got a lot of work to do here, how we find the right kind of communication message. I think other utilities -- some recommended dripping in Texas. Other ones did not. And I think that's why we're trying to reach out across the state with other utilities to see maybe statewide what was the best practices and how did that work. I think there is non-dripping techniques that can be used. You know, encouraging people to open up their cabinets to make sure that heated air is getting in there. Assuming that the electric system is working. Also turning off the water at the curb at night is the most protective way.

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You just turn off your water at the curb, on the customer side, and open your Faucett and drain down the water and when you go to bed, you know, you're safe. And when you wake up and start using water during the day, you get enough [indiscernible] And you reduce the risk of freezing. That's a strategy we feel better about and will try to enhance that communication strategy about how customers can do that. I think the simple days of us just issuing a drip your water message, that those days are over. We've to figure out a better strategy. We don't have all the answers today, but that's an area that you've certainly asked for Randy and others to help us sort through. >> So one thing that might be good for Austin water to do is maybe try and partner with our realtors and make one of those new -- make the water key that you need, the

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water wrench you need at a new house owner gift or something and have a combination with Austin water and that or get [indiscernible] Those folks to partner with us and make sure that as many people as possible have access to those keys and know how to use them when they buy a home. My last question builds off of Mr. Meszaros' question, which is I'm really curious to know about how other is I systems fared with respect to the communications and also the operations stuff, to have a better sense of how we did under these circumstances and these were unusual circumstances. But I don't have a real good sense of what happened in other cities and how we did relative to them. >> That will certainly be part of our after-action review. I don't have certainly a sense of overall how other utilities handled it.

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I think each one is set up a little differently. So we'll be digging into that and that will certainly be part of our review so that we can compare those notes and provide that to you and the other council members. >> Kitchen: Thank you. I have a few questions, but council member pool, do you have any questions first? And then -- okay. I have a few questions and then we'll go to council member tovo after I ask my questions. So just two things really, Randi, you had mentioned reaching out to critical customers. So I have a question, do the critical customers include individuals? And can you kind of give us a description of the scope of what critical customers means for you guys in this context of outreaching to them? >> It was primarily

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hospitals throughout the city. Certainly those that were without water and then even those that were having a hard time boiling their water and getting those to individuals and customers within their hospital system. Additionally wholesale customers were part of that communications so that we could alert other communities outside of Austin water service area about what was happening. With our service. And so those were the two primary categories. There were not individual customers. >> Kitchen: Okay, so do y'all have -- so it sounds like right now any way or just help me understand for y'all's system of emergency response, what I'm trying to understand is if you operate with a list of critical customers? I know Austin energy does -- not that it's comprehensive, but just they have at least some sort of list. And so my question is whether Austin water has a

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alyssakin to that? >> Yes, this is Greg again. We have a critical customer list. And it's actually mapped for our operations team when they are out working they can see who is a critical customer. Obviously health care is a big part of that and it's not just hospitals, it's other health care providers, and as Randi mentioned, some of our wholesale customers, large or sensitive customers, we do I believe have individual customers -- like dialysis patients on that system. Although I'll have to confirm that. I don't know if one of my other ad's may know that if they are on the line. >> This is Shea, assistant director. Our critical customer program does include individuals. So folks that have medical devices at home that require water so that when our crews are out in the field, they are a -- aware of those

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individuals. And the other health care providers that were mentioned already. >> Kitchen: So are they -- so last time we met we talked about y'all's resiliency plan or your response plan, I'm not getting the words right -- but your emergency response plan. So at this point anyway, do you include those individual critical customers in the outbound messaging? To the point of checking on them I guess might be the question? >> I don't think that is a part of our outbound communication at this time, but it's certainly an area that we will review. We're in the process of doing an evaluation of our critical customer program that started before the storm event in order to look for opportunities to make it more robust and improve it. And that includes the correlation -- or coordination with the customer experience team and Randi's program area.

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>> Kitchen: Okay. So if I'm hearing you right, there is a review of the critical customer -- the individual critical customer list, right, and your policies around how to respond or work with them? Did I had aer that right? >> Yes, I think that is fair to say. You know, we're doing a comprehensive review of the program and that will include everyone we have identified as a critical customer, including the individuals. >> Kitchen: Okay of and that would include your emergency response related to them, right? >> Yes, it does now. (Laughter). >> Kitchen: Okay. All right. So okay, then I have one more question then. So it sounds to me like from what we've been talking about, you sort of have that texting out and pushing out messaging, if I'm hearing correctly, three main ways to do that. Through the Ami, the

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customers that happen to be on the -- what does it stand for -- automatic metering? Metering infrastructure? >> [Indiscernible]. >> Kitchen: Advanced metering infrastructure. So you have that mechanism which is really in pilot phase in the beginning phase. You've got the reverse 9-1-1 and then you've got your customer messaging. So I have two questions about that. Do you have a sense that

these alerts that go out through one or more of these systems are effective in terms of identifying problems and having customers respond? I don't know if you have the data to tell you that or not. But I'm trying to determine whether or not these alerts are then translating into some action that either helps the consumer and/or helps you all as you're

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responding. >> So I would say yes, in some ways. So certainly during this emergency event we were pointing customers to our operational updates for more information. You know, we were saying here is the update, and whether it was the boil water notice or otherwise, and then for more information, tune in to our operational update as tough thys. Outside of that, in terms of kind of being more of a two-way communication, in our portal it does have the ability to receive customer questions and e-mails to team members. Certainly during the event were standing by to answer those questions and in truth in day-to-day operation mode, has the ability to accept customer intake by way of e-mail or by phone. And so I would say yes, largely

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we can learn from this event and how to utilize the tool, but it does have that capability. And again has director mess czar rose mentioned, this was -- Meszaros mentioned, this was newly launched in November and this was a relatively new tool for us and we were able to utilize it for this event. Thankfully it did play in our favor but can we learn from it and keep mod figure from there? Yes -- modifying from there, yes? >> Kitchen: I guess overall in these three different symptoms I would probably off the top of my head say you need each of these three systems going forward and you might use them for different purposes. But one of the things that I think would be useful in your after action report is to kind of lay that out for us so that we understand when is Ami to be used versus reverse 911 versus customer messaging? Or is it really more just overlaying all three, which

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gives you three opportunities -- eventually with Ami, that gives you two or three opportunities to reach someone. But I think it would be helpful to understand how those three systems interact in the best way, in the most efficient way going forward. So I don't know if y'all have thought through that yet, but I would think that that would be helpful to understand that. Does that make sense? >> That does make sense. If and at a high level I would say the plan would be to continue to utilize these three avenues down the road, but I do hear your point to provide that back in our after action review of how we will be exactly utilizing all these systems. >> Kitchen: When and what it would be used for is helpful for the public to understand. The last question I have

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then is -- oh, Ami, can you just remind people knew N that's on a path -- advanced metering infrastructure, that's on a path to be rolled out more broadly. And I know there's a timeline for that. Can you just remind people of what that is? And that may be a question for Mr. Mess czar rose. I don't know who can -- me Meszaros, I don't know if you can answer that? >> I think what has been mentioned is that we do have the Ami pilot that we're going through with the intent of testing out the 5,000 roughly meters that we have in the ground and then we will launch full scale this year, targeted by fall

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to start the initiation of citywide compliment. And part of that is we have to have the infrastructure in place in which collects all this data from each individual meter. So right now we're working through the installation of what we call the dcus, the collection units that are stage loud the city. And those are -- stayed throughout the city. And there are 100 to 150dcu's and that will help where in the city we'll kind of navigate through next steps of full deployment. The intent is to continue with the manual reader contract parallel with our deployment, which should be wrapped up some time in the year 202024 time frame. -- 2024 time frame. >> Kitchen: Thank you very much. That's a good reminder of information for people.

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Okay. So councilmember tovo, I think you may have questions? We are focused right now on the communication -- >> Tovo: On communication, yeah. >> Kitchen: I didn't know if you had turn that. We'll be turning to infrastructure resiliency after we finish communications. So if you have questions on communications, please -- >> Tovo: Yeah, I've been here with my camera off. Thanks. I wanted to touch on a few of the issues that have been raise bud they were part of our exhibit a that we passed at the March 25th. Director -- Meszaros or assistant director Jenkins, I think I understood from some of the responses that part of the after action report is going to address the issue of potentially identifying thresholds for what kind of messages go out at different points regarding water use? Is that -- >> That's correct. >> Tovo: And it seems like we have a model for that with regard to our drought response. I mean, at certain levels

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different kinds of uses were curtailed and different messages went out to the public. So is that the kind of modeling that you're going to do as Luke to revising and setting thresholds for this? >> Yeah, that certainly is a system that works for drought response. So I think in a winter event it could work similarly just like it does for flooding, etcetera. So we will be looking into that. >> Tovo: Thank you. And I just want to highlight what several of my colleagues have said about information and preparedness. When I sought to inform myself in the week before storm I was seeing different message outs in social media and they sometimes -- they conflicted with one another and they conflicted at times with Austin water utilities messages about for example should you wrap your outside pipes and a couple other points, but the main one where there was conflicting information about whether

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you should wrap them and whether to drip the outdoor pipes. So I really look forward to Austin water getting some very clear -- very clear education out there. I know that's where I eventually turned to for information and got good information about that, but to extent that we can make that available sooner, I think that's important P councilmember alter had a good idea about how to link up with realtors. That's on my to-do list. I think I ordered one yesterday, one of those keys and had my plumber out repairing some leaks show me how to do it at the is street. I think it's great if we push out that message before the next winter storm, but I think while it's on a lot of people's minds I would encourage Austin water to get that information, if it's not already on our website, this is a great time while the weather is warmer it's a great time to locate that cutoff valve at the city and get that tool if you don't own one already

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and ask your neighbor or look up online or potentially even have one on our Austin water utility a little video about how you can use those tools which you can get at any hardware, although they've been sold out for weeks now. So again, I would encourage that education as soon as you're ready to roll it out. I know you're in the mid its of doing the after action report. I think that's all I have with respect to this section. I do have a question that kind of bridges into the next topic, and that is whether we're -- >> Kitchen: Councilmember tovo, unless it's on point, could we wait for their presentation? Because I think they've got a whole presentation on infrastructure resilience. >> Tovo: Sure. It was about communication with utility organizations. >> Kitchen: Okay, go right ahead then. >> Tovo: Thank you. I know you had mentioned in the presentation that you are in communication with the American water works association. I know the Austin water utility has had a very long relationship with the water

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utility climate alliance and I want to know whether you're continuing -- whether we are still members of the water utility climate alliance fanned that is too one of the sources of information sharing that we're engaged in. >> Councilmember, this is director -- Meszaros. We are still a member of the water stilt climate allowance-- utility climate alliance and that is one of the professional organizations that will get information on on climate, resiliency and strategies that are working for other utilities. Besides that utility or that group, in awwa I am also in contact with other utility directors in the state of Texas on techniques and approaches that they used and their utility's experiences. So this will be kind of multiple levels that we'll be seeking feedback on this winter storm. >> Tovo: Great. Thank you. As we continue to talk about

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the resilience piece it would be interesting to know how engaged we are with wuca at this point and how that's informing the choices, but that takes us into the next presentation. I just wanted to get a sense of whether or not we're still in communication with that organization. >> And councilmember, since you brought up the topic, I might use the opportunity to announce we have hired what we call an environmental resource officer for Austin water. It's our highest level environmental contact at Austin water, and you may be familiar with Sherri Kuhl who leads our wild lands. She helped the promotion as the Austin water environmental resource officer and one of her charges is to be working on our climate strategies, wuca. She has also staff working for her here and we have her efforts with Sherri and her new role. >> Thank you, Mr. -- Meszaros, that's great. So now we'll turn to our infrastructure resiliency portion of the presentation.

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>> So Shea Rawls rollston will be presenting that. >> Good afternoon, councilmembers, chair kitchen. As Greg mentioned I'm Shea, assistant director for engineering services at Austin water. Today I'll be talking about our capital improvements planning process and how we incorporate resiliency and risk management into project planning and delivery. Next slide, please. Austin water uses a risk-based planning process which is an all hazards approach to infrastructure improvements. We recognize that in order for our infrastructure to be resilient with all kinds of stressors and challenges we need a multi-prong approach for prioritizing need and investment. You've heard from other members of our team about how we use effective utility management. Two of our guiding principles are to address critical satellite risks and demonstrate maintenance excellence. Austin water has a large and ambitious cip program. We will build more than a

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billion dollars in capital improvements over the next five years. 93% of that is direct investment in our infrastructure, treatment plants, pump stations, lift stations, pipelines and reservoirs. It's important to have stability in our planning process, but also important that every dollar invested is reducing our risk and improving our resiliency. So we employ a budgeting process that is zero based, which means we build it from the ground up every year. And every year we look at the next five, 10 and 20 years to assess the financial impacts because affordability is a core belief at Austin water with resiliency. Next slide, please. This is an intensity data driven process. In order to make good decisions we need good data and that requires a robust asset management program. Asset management is a term that gets thrown a lot and can mean different things to different people in the organizations. What it means at Austin water is that we know what

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assets we own, where they are and what condition they're in. In order to truly understand the risk of any of our assets we need to know how likely it is to fail and we need to know the negative consequence of its failure. We have extensive databases for our horizontal assets and vertical assets and the knowledge needed to maintain this data is spread throughout our organization so we've cultivated a culture -- cultivated a culture of maintaining that data. Asset management is truly a journey, not a destination. So we continue to define our processes and develop new tools. Next slide, please. These tools help us assess new data and draw conclusions that may support or improve our understanding of the risks inherent in our infrastructure. As we all know, pipe breaks, both private side and public side, created an incredible demand during the winter storm. So we've taken a look at the data available from the public side breaks. We found that 85% of the public side breaks were on

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cast iron pipe and that 95% of the breaks were on pipes eight inches in diameter or smaller. So this data tells us that we should prioritize replacing small diameter cast iron pipe to reduce risk from future freeze events. Next slide, please. And this data is consistent with break data over the last 10 years. 76% of the breaks experienced by Austin water have been on cast iron pipe. However, only a fraction of all the cast iron pipe in our system has actually experienced a break. Furthermore cast iron represents more than a quarter of all our system and has a replacement price of \$1.3 billion. That's 20% more than the five-year cap for the entire facility. So there's not the story that replacing all the cast iron pipe in our system. That's Dr. Data analytics and risk-based decision making come in so we can target renewal funding to where it has the best chance of reducing our risk from

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pipe breaks. Next slide, please. In 2011 Austin water initiated a programmatic approach to reducing pipe breaks which we call renewing Austin. It aims to do exactly what we were talking about on the previous slide, target the worst performing pipe for replacement with a focus on small diameter pipe in our neighborhoods. Since the program's inception we have replaced 57 miles of pipe and spent \$115 million. And our approach has proven effective. Our annual break rate declined 43% and we're now below the industry average of 14 breaks per 100 miles of pipe. We will continue to fund this project on an ongoing basis for this program. Our upcoming five-year cip includes more than 60 pipeline renewal projects located across the city. Next slide, please. Another area of risk that was highlighted during the winter storm is the risk of power outages.

[2:15:19 PM]

Water and power are tied together. You literally can't have one without the other. Having robust power systems allows us to protect our equipment from a variety of risks, so a program of modernization and electrical system renewal is foundation AI to all hazards risk management. We actively plan collaborate with our partners at Austin energy and we have been investing in system renewal over the last 20 years. I know this slide has a lot of information on it and it only hits the highlights of all the projects that we have done or are doing to reinvest in electrical and power systems at all our facilities. Several key water projects are listed above the arrows and wastewater projects are listed below the arrows. You can see that our focus on the water side has been on bringing dual power to pump stations, replacing mechanical and electrical equipment at pump stations. Building new substations at the treatment plants and

[2:16:20 PM]

upgrading power distribution within the plants. On the wastewater side the focus is similar, new substations at the treatment plants, electric we will improvements at the lift stations and emergency generators are planned for a number of lift stations. Completed projects over the last 15 years or so surprised an investment of about \$40 million. Ongoing projects have a price tag of over 200 million just for the electrical portion and our future projects already identified and programmed into the long range cip are over \$100 million. So this is a significant investment for the utility and we expect it to continue. Similarly to the discussion on pipe breaks, the answers are not easy. Take emergency generators. It's not feasible to maintain emergency generators at all. 135 of our lift stations and the loads at our treatment plants are large. We are one of Austin energy's largest customers. So each plant would require multiple large generators. And generators have to be

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exercises sized and fueled. A generator does you no good if you can't fire it up or can't get diesel to it due to road conditions. And they're noisy. Many are nestled in neighborhoods next to people's homes, but we must address power reliability so again we are taking a multi-pronged approach, implementing generators at some locations, collaborating with Austin energy on options such as a third redundant feed at other locations and evaluating new technologies for emergency power. Next slide, please. Along with power, modern water and wastewater systems require communications and controls. We have an extensive communications network of radios and fiber-optic that connects all of our facilities. In the distribution system we have pressure points, pump station appraisal data and reservoir data. In the lift station we have lift station data and all of our wastewater water plants have elaborate communication and controls.

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All of these talk back to our control center. The exhibit on on the top right shows the communications center when it's healthy. You can see the fiber-optic network connecting various sites that talk to the distribution and collection system. Our wide area network requires power to operate and on the bottom right you can see what it looked like at the worst point of the storm. Multiple fiber-optic links were out of service. However, over the last couple of years we invested in radio upgrades and new cellular links and because of that we never lost communications with our remote sites during the storm. We lost some instruments that froze, but we were able to talk to all of the operating instruments. The ability to see what was happening in the system was crucial to restoring system operation. Next slide, please. We're making other strategic investments that build resiliency in our system. You're familiar with my atx water that Randy discussed

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extensively earlier. Our automated metering system and Rick showed you some of the data that came out of the pilot of that system during the storm event. A few years from now the rollout will be complete across the city giving us much better visibility into the status of individual customers. Additionally and equally importantly, the data coming from those meters will help our customers make better decisions about water use during drought because they'll have realtime information at their fingertips. We're also investing in extending our reclaimed water system by initiating several projects we call completing the core. We know from the water forward planning process that reclaimed water is an important part of our water supply portfolio for future demand especially during drought. Similarly we're beginning the pilot of the aquifer storage and recovery project and we'll be able to restore drinking water underground during wet years and bring it back when we need it whether that's for a drought or a water quality issue or extended demands owe observation assess sieve demands from an extended

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freeze. All of these strategic investments improve our resilience and address all hazard risk mitigation. Next slide, please. Sometimes we find that a renewal project is not as simple as replacing all gear with new gear. Instead we need to make a strategic investment in a more extensive project to better serve our long-term needs. Two examples are shown here. Back in December the council approved the construction contract for replacing the electrical switch gear at the Ullrich pump station and we discussed at that time that there was simply not room where the existing gear is located to meet industry current standards and best practices. Similarly the north Austin reservoir and pump station was not a simple tank rehabilitation project. The existing tank was over 100 years old and the right thing to do was demolish it and construct a new smaller tank in its place. These are just two examples of places where we're making strategic investment to build reliability in our

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system. Next slide, please. Prior to the winter storm two months ago a prolonged freeze was not at the top of the list of expected risks, but the all hazard risk process is adaptable. Many of the projects we already have planned will help us address this risk going forward. We've been examining our long-term cip to determine which projects would be punt to pull forward and do sooner than we've planned. We've identified a number of areas to focus on including the expanding renewing Austin program, excel latin several cip projects for water storage. Accelerating improvements for the water operation center and improving the approach to resiliency. We've also added the purchase of one to two bulb water trucks. We continue our after action review, including consulting with our peer utilities on their after action findings. We'll continue to assess opportunities to build resiliency and reliability in the face of the changing

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climate and associated risks to our operation. Next slide, please. Thank you for the opportunity to present to you today, chair kitchen. I turn it back to you for questions on the presentation. >> Kitchen: Okay, questions. What would like to ask any questions? Councilmember Fuentes. >> Fuentes: Thank you, chair. My questions are around the efforts to accelerate certain cip projects. Can you talk a little bit more about that, the efforts required to accelerate certain projects and if any of the projects are underway? I'm trying to get a better understanding of the timing, the funding and what all would need to be accomplished to get these projects accelerated versus what they were originally slated for? >> We got through our annual cip budgeting process and we lay out the next five to 10 to 15 to 20 years. And we show individual projects and when they'll

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start and when they'll be completed in that plan so that we can do the financial planning. So what we've done is we've gone back and identified several projects that we'd like to do sooner based on this recent event. And we will just program that in to a sooner year and we will get that assigned out to our teams and then we will have to do the financial. We will also have to do the financial analysis to determine if we can effectively move forward with that or if there are other projects that we need to defer or space out in order to accelerate that one. >> So you're still in the forecasting, realignment mode in understanding if you accelerate several projects financially what that would mean? >> Yes, we are. >> Also, councilmember, to start a cip project it's typically engineering, which is a fairly low cost start

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it's when you get in the construction. If we're going to do a storage tank, the engineering of that might be hundreds thousands of dollars and easily accommodated within our budgets. But when we get into the construction that might be in the tens of millions of dollars and that's when it might require future rate increases. So that's what we do is look long range and give the council kind of insights into where rates are going and when we might need to tackle rate increases. >> Okay. My last question was around the resilience investments. I know you mentioned Ullrich as one of the plans that will get -- plants that will get some funding or some much needed repairs. Did you base that decision on where there were more pipe breaks? Like I'm just trying to get a sense of are the investments going questionably throughout constituent or like how do you make that determination?

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>> Sure. So we have -- we do a condition assessment on all of our assets, whether it's horizontal pipeline assets or what we call the vertical assets at treatment plants and lift stations. And we identify which assets are in poor or very poor condition and we program those in for renewal funding in the next five-years' cip cycle. And we do a look at our poor and very poor condition assets to make sure they're included in an upcoming cip project. So in that way we confirm that we are spending our dollars effectively on asset renewal. As far as geographic location, that is one thing that we look at specifically when we're scoping renewing Austin projects and other pipeline projects is are we

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addressing our worst condition assets equitably across the city? So that's -- that's part of our project scoping on projects as well. >> Fuentes: So the investment of the renewal funds is based on the

conditions of the assets and not necessarily correlated with where we see more breaking and bursted pipes. >> Those two things go together so if a pipe has a break history then it is rated as a poor condition asset. >> Fuentes: Thank you. >> Kitchen: Other questions? Councilmember alter. >> Alter: So I understand that you're looking at stuff you already had planned and trying to accelerate certain things.

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I heard you say you would be purchasing another water truck. Help me understand better the new things you're looking at because as we discussed at our last meeting there was no anticipation of a freeze in your planning. So to tell me that we're just going to go and move forward with the projects we already had when our planning didn't account for a multi-day freeze that alone doesn't help me see what we're doing to avoid this in the future at the degree that I would like. So can you explain a little bit more about the additional things you're thinking or how some of these other projects address that, that maybe isn't so apparent from what I know at this point? >> Sure. So in talking about how we do our cip planning and our all hazards approach, that

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speaks to when we build resiliency and robustness into our infrastructure it helps protect against whatever might happen. Now, the freeze event really illustrated for us the risks that we had not experienced before with a prolonged freeze so pipe breaks were a part of that, electrical he power was a part of that, loss of storage a part of that. And so the projects that we have identified to accelerate address those risks specific to what we experienced in the storm event. So the urgency that we feel now to get those projects done is a result of what we experienced in the storm event and now know that we need to plan for. >> Alter: But are there any -- maybe there's not. Obviously I don't know the infrastructure, but are

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there -- still not understanding if we're considering new investments or new things. >> I would say the things that we need to invest in in our system are the same things we always need to invest in in our system, which is good quality equipment and pipe material that will stand the test of time and resist the forces of these emergency situations. There's not an additional category of infrastructure or equipment that we need for prolonged freeze event, but we need to armor our system more effectively against prolonged freezes. >> So for example, and it depends on your definition of new, but storage is

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critical to manage severe events. The more water we can store and have ready the better we are at working through an event. And some of our pressure Zones have relatively low amounts of storage. They're still above regulatory standards, but with growth and other considerations, that's an area that we're looking to significantly enhance. So we'll be going through storage projects and bringing some forward, maybe some new ones that we hadn't had plan and building those sooner in strategic locations that are most vulnerable to storage driven outages that we're working through. More specifically, the lowest storage zone we have right now I believe is southwest C and that was the first they are went out of service. And that would be the kind of decision making we would

[2:31:43 PM]

use to drive something like additional storage strategies. Shea I think did a nice job outlining the water main investments and looking at opportunities -- we know we're on the right track. We're targeting the right kind of water mains. It's reducing breaks. We might need to excel late that process, put together some additional water replacement projects that we know we want to do and do those sooner as a way to reduce breaks and reduce public water loss during the event. Our electrical projects are another area that Shea outlined. We'll be looking at those. I think -- Shea hit on this. What might be new is do we consider major generators at plants. That is something the utility has not recommended in the past and something we'll probably have to work through as a community if that makes sense for us.

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And those are long-term projects. Those aren't easy to do short ones necessarily. But do you try to connect large diesel-fired generators at the drinking water plants. I think there's a lot to sort through with that, but that's probably some of the new areas that have to spend some time examining. And we won't make those decisions in the next few months that that's something that we'll have to work through in a probably a little longer range. >> Alter: Thank you. Can you speak if there's any federal or state funding to support the city's infrastructure investments that is new? Or ongoing projects? >> We routinely tap when whatever federal funding is available. Typically federal funding for water and wastewater infrastructure is allocated to the states through the revolving loan funds where you get very low interest

[2:33:45 PM]

loans from the state and we take significant advantage of that already and we'll continue to look towards that and engage routinely with the Texas water development board on those opportunities. We

have several hundred million dollars of loans already and would hope to grow that portfolio. There's infrastructure dollars in some of the new packages that are coming out with the infrastructure recommendations by the Biden administration and we would hope to tap those resources depending on how they're configured and made available. That is still to be determined. There's a lot of dollars that they're focusing on lead services through those programs. We're fortunate we really don't have lead services in our system so it will depend on how that comes out. But certainly, councilmember, that's where we'll be looking to take advantage wherever possible.

[2:34:46 PM]

>> Kitchen: Okay. Other questions that people have? Councilmember Ellis. >> Ellis: Thank you. I apologize I had to step away for a second so this may have been covered. When you mentioned the southwest C area is that something that you've decided to make any improvements or additions on too or is that just an idea that you need to investigate further? >> I think we have more work to do there, but we do know just the way our system is configured that that has an area that has less storage that we would want and we would likely have enhanced storage. Not a likely area, but certainly a high priority area. We don't have specifics pinned down with what we would do there. >> I can tell you the residents down there would be very excited if it happened. It was hard being the first off and last on for many of my constituents. I know you're very well aware of that so I won't rehash it. But as far as some of the updates you wish to make, do

[2:35:47 PM]

you have a timeline of how maybe new things added to your list will weave into the other timeline you provided on I think it's slide 18 that kind of gives the 20 year plan. Do you know how some new ideas might work with that? Do they have to wait in the chute until there's more money or can they be happening concurrently? >> Hank director Meszaros was saying when we start a project we start with engineering and that's small dollars compared to the construction cost. So we can get some things moving fairly quickly. And then while we have to do the analysis on fitting the pieces together for the construction dollars for the long range spending. But I don't have a timeline for you of the projects we've identified to accelerate where those might

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fall, but we are in our meetings recently of our capital planning team essentially we said let's get these started as soon as possible. So it's not something that we will rush into. We'll make sure that we're making the right choices about which projects we move forward with, but we -- it's not something that we'll wait on either. We'll keep it going. >> Yes or no. When we issue a request for qualifications to

selects an engineer for a specific project then we will bring that contract to you for approval. If we are able to get started -- get a project started off of one of our engineering rotation lists,

[2:37:47 PM]

then we will authorize them to get started. At the point where we will be spending construction dollars, we will bring that to you as a request for council action to approve that before we start it. >> Ellis: Any general idea of when those might come? Are we starting a couple of months, couple of years? >> It's more on the range of a couple of years than it is a couple of months, but hopefully within -- let me -- rather than commit to a time frame let me commit to putting a plan together that I can share with you. >> Ellis: I appreciate that. I do. That's really helpful information and I'm glad to hear that y'all are kind of thinking about how can we be flexible given that we're an enterprise fund that has a lot of long-term and high dollar financial commitments to improve our water infrastructure.

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I do appreciate that and thank you for trying to be flexible and trying to be nimble given the work that you do. >> Thank you for that. That's one of the things that I think our cip planning process, one of its main strengths is its flexibility and adaptability. Obviously our projects take a long time to deliver and so once we commit to something we need to see it through but we have the ability to be flexible in how we schedule our projects and we do that to adjust to the needs of our operation. >> And I would just add from a big picture perspective W we're in good financial shape right now. We have a lot of financial capacity to get work done. Not unlimited, but there's no rate barrier for us to get important work started in response to the after action recommendations. I mean, ultimately we'll need to engage the council with rate strategies in the

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future, of course, but we don't see a financial obstacle right now for us to be able to carry out the first steps ever recommended changes across our utility with regard to this winter freeze event. >> That's really good to hear, thank you. >> Kitchen: All right. Other questions? Councilmember tovo? >> Tovo: Thanks so much. Director Meszaros or assistant director Wilson, when I looked through the climate resilience climate plans it talks about systemwide redundant energy supplies. Was that intended just to be a recommendation for dual electric feeds which I see on your plan on page 17 or at the time of that report was it also talked about to have generation? Generators. >> Typically we have a combination of approaches for power redundancy at our

[2:40:52 PM]

facilities. We have dual power to some. We have generators at others. We have some mobile generators that were able to take two different locations in emergency situations. So I believe that the plan envisioned a multi-pronged approach to redundancy and power because that's our -- what we typically do. >> Tovo: Thank you. And then my last question is about the lift stations. So in looking at some of the discussions that have come up across the state, in some places the critical circuits hadn't been updated to include all of the water infrastructure. Do you know the extent to which that is the case here or if that's -- and if that's not a question you can answer right now, if you're intended to talk about that in the after action report. >> We can talk about in the after action report. Assistant director Coronado may be able to speak to

[2:41:54 PM]

this, but my understanding is that the -- most of the pump stations did not experience power outages and so we did have a number of lift stations with power outages that we were transporting emergency generators around to those lift stations to get them back into operation. >> Was that because they were on the planned outage or that they experienced weather outages. >> Councilmember, it was more weather outage related was my understanding from like tree limbs or icing on lines. And not because of a blackout from the critical circuits. We'll certainly examine that to see if anything was left out, but I think the vast majority of the outages were storm stage. >> Tovo: Thank you. Thanks for that info. >> That's correct. >> Kitchen: Let's see, I have a question and then we can go to councilmember alter. Councilmember pool, drew a question? >> Okay. So my question then is it kind of builds off of what

[2:42:55 PM]

councilmember alter had asked in just a different way. I think you answered it, but let me ask this way. The general public was talking about things like winterizing our infrastructure. Does that have a particular meaning to say winterizing in terms of our water infrastructure? And is it something different than what you've already covered and what you've talked to us today? >> I think it does. When we look at our facilities, we -- our standard of practice is to insulate exposed chemical feed lines. It's to heat tape motors on equipment, but some of that was not sufficient in this storm event. And so that's an operational issue that we'll be addressing at our different facilities to prepare for an eight-day freeze as opposed to, as director Meszaros

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said earlier, a two-day freeze is a lot different. So I would say winterization, weatherization items are specifically in the o&m areas of our facilities. >> Kitchen: Okay. So it's not a cip issue, it's more -- okay. >> I don't think so. >> Kitchen: So it sounds like there's an intent to do that and the specifics of it would be in your after action report? Or can you give us an idea of what the specifics -- >> That would be -- yes. What transpired at the treatment plants will be a part of our technical after action report. And so the weatherization issues will -- or items will come -- be summarized there. And assistant director Coronado may have something to add on the o&m side of that.

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>> I'll just add what Shea mentioned was typical weatherization is we have adequate insulation for equipment and piping that's outdoors. We did experience some, you know, areas in which our outdoors which we can now work on to make them more indoor related. So whether they are instruments that were throughout the city, so there are some things that are a little bit in our planning that we would need to do and start doing now that wouldn't take a lot of capital investments outside of updating some of our procedures. If we keep units such as business sins for -- basins for maintenance areas in service versus take them down and dewater them, those are some of the procedural adjustments we'll make. But a lot of that it doesn't require a lot of capital investments to prepare ourselves for next winter.

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>> But I would add that there is probably going to be some longer term or larger expenses we would have to make to winterize, and I mean I'll give you a couple examples. So we did experience instrumentation that froze like pressure gauges, and I think Rick was telling me pressure gauges, we have some pressure gauges at fire stations and they did okay, by and large, and other pressure gauges that were out in the raw elements froze up. So we might over a period of time relocate more pressure gauges to fire stations or indoor buildings which would cost some dollars. I think, you know, bigger projects with this long duration freeze, it's critical that we have to move -- we treat using lime, we're lime softening plants, and we have to haul lime sludge residuals every day. And with the winter storm

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conditions, we couldn't haul sludge. Up red hill that's Easey. I think we'll be examining some of those issues loops like do we need to increase capacity to store lime residuals where we could store versus the need to haul. We've got more work to do there, but I don't know if you call that winterization, but that is possible areas of capital investment that we may need to make. >> Kitchen: Okay. One last question for you then just to confirm, let's see, I forget who all you were talking about with this, so if I'm

understanding correctly, you all are still thinking through your cip projects and which specific ones to accelerate in which order. And I think you mentioned coming up with a plan to share with us.

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My question is, is that going to be part of the -- you know, we approve the cips every year as part of our budget. Are you expecting to have by the time we do our cip for this budget that analysis done on what you want to accelerate, or just give me an idea whether -- how you see that as part of our budget process. >> Yes, our plan is update our five-year cip prior to I believe it's the beginning of may when the budget office needs our final numbers from us. However, that said, you know, the -- the actual scope of the project and the extent of each project we will continue to work on, but we will be making changes to our cip plan that -- from what we initially submitted to what you'll approve later this spring. >> Kitchen: Okay, so by that time if we were just --

[2:49:04 PM]

if we wanted to understand which types of projects or which specific projects you had identified that it's important to accelerate, we might be able to see that, even though you may not have all the specifics about it. Is that fair to say? >> Yes, councilmember, but this will be an ongoing process. It won't be -- but you should see some of that emerge in the initial '22 budget submittal. >> Kitchen: Councilmember alter, you had a question? >> Alter: Yes. Thank you. I think you are more focused on the cip today than the o&m, but we do need something to answer to our constituents who are asking us about the winterizing and how that can be improved. There has to be something that, you know, there have to be some things that we're making choices on about winterizing or not.

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I moved here from Madison, Wisconsin, and we have eight-day freezes multiple times and longer and our pipes have never frozen and the water always runs. So we -- there may be lots of technical things that get away in answering that, but I think it would be super helpful for us to be able to communicate, you know, in writing or something something more substantial in response to the combined question of mine and councilmember kitchen. So I think that would be useful. I'm mindful there's a lot of technical stuff, but you guys are the experts on, but that's part of what we're being asked to explain to folks. While I appreciate the all hazards risk assessment, et cetera, we need to move forward both with that, sort of the broader climate picture and all the hazards, but people are rightfully

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asking what are we doing to make sure if we have an eight-day freeze we're not right back where we are. I have to digest this, but I'm not sure I'm totally understanding how this path helps us avoid that in the future. Again, it's a lot of information that you provided, but that's still a lingering question for me, but I'm also recognizing that I'm not an infrastructure specialist. So I want to keep both of those things in mind. My question, though, is about the onsite emergency generators that are proposed under the 2020 -- or under that Orange line. Were those already in the works and they just happened to be on that line, or are you planning generators there because of experiences in this storm? >> We already had a number of projects identified to implement emergency generators at lift stations, and they are not all planned for -- to begin in 2020.

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Some of them have not begun yet. So the projects on the slide don't match up exactly with the years, but they are -- we've been working -- systematically working through implementing emergency generators that select lift stations based on their risk with power outages. >> Alter: I think Texas plume was one of the early ones to go out, and that one was already on the lift and just didn't have it up and running yet? Is that -- okay. And then just quickly going back to the communications, in those early stages when Texas plume went out, those of us who -- I think it's not actually in my district but across Friday district and impacted my district, but there was no direct communications to us to know that it was a lift station that was, you know, in our district that we ought to be communicating out to people that there were problems. So I know you're sending the

[2:53:09 PM]

general stuff, but when it becomes something that's also very concentrated and you have names we don't always recognize, particularly if it's not in our district but impacts our districts, improving that communication would be super helpful for us in getting the word out. >> Kitchen: Okay. So are folks ready to wrap up? Looks like it. Okay, so -- so thank you all very much, Mr. Meszaros and your whole team. This was very helpful. And I also felt it was helpful to be able to drill down, to spend some more time on a couple specific issues, so we can do that. In the future. And so in terms of our last time for future items, I know that councilmember alter had highlighted the drought contingency plan and hydraulic models in an

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update on water consumption past and present including lake levels. So those two items will be on our next agenda. Councilmember alter, did you want to say anything else about those? >> Alter: No, I don't. >> Kitchen: Okay. So those will be good. I mean as we're headed into a drought and issues related to water storage and a good time, Mr. Meszaros, to talk about water forward and the water storage aspects of that, but we'll talk about the scope before our next meeting. Our next meeting is in may. Councilmember Ellis, did you raise your hand? Go ahead. >> Ellis: I did. Thank you. Since we brought up the Ami pilot, I have forgotten how long that's supposed to go through, but maybe when the time is right, bring that back for an update so we can understand how well it's working. Because I think people are eager and ready for it, so understanding how well the pilot is working and what

[2:55:12 PM]

has been learned will be really helpful for us. >> Kitchen: Okay. >> Ellis: Whenever the time is right. That doesn't have to be the next meeting. >> Kitchen: Other items people want to highlight right now? Okay. Oh, councilmember alter. >> Alter: In case, I don't know that we have to do it as an Austin water meeting, but for those of you very concerned about wildfire, I've had some meetings with Austin water about their wildfire mitigation and prevention efforts including around their facilities, et cetera. I don't know that it's an immediate necessity for this committee, but, you know, councilmember Ellis, you may want to get some of that update because a lot of it is happening in your district. But just broadly, you know, want to say that I appreciate the efforts of Austin water to take seriously the wildfire threat and to put some

[2:56:14 PM]

investments behind that both for the facilities and in terms of the water -- the quality lands that they manage. >> Kitchen: That's great, and thank you, councilmember alter, for pursuing that. I need to learn more about that. My district has some impacts, not as much as yours and councilmember Ellis', but I really appreciate you continuing to work on that. And so I'll make sure I'm up to date on that. >> Alter: There's a set of issues that are, you know, specific for the water infrastructure and so I just wanted to flag it. I don't know that we -- this was one of the areas that was highlighted in the climate resilience and in their emergency preparedness plan, so I think they have sort of the next steps on that, but for awareness for my colleagues who are also interested in this and who are on this committee, I just wanted to flag that it might be something you get

[2:57:14 PM]

an update on for your knowledge if you are interested in both the Austin water and the wildfire nexus. >> Kitchen: Okay. Thank you. All right. Anything else before we close? All right. Thanks, everybody. I am

going to adjourn the Austin water oversight committee at 2:57. So thanks everybody. >> Pool: Bye. >>  
Kitchen: Bye.