PLACE: Dobbs Building
Raleigh, North Carolina
DATE: Wednesday, September 19, 2018
DOCKET NO.: W-218, Sub 497
TIME IN SESSION: 3:43 P.M. TO 6:22 P.M.
BEFORE: Commissioner ToNola D. Brown-Bland, Presiding
Chairman Edward S. Finley, Jr.
Commissioner Jerry C. Dockham
Commissioner James G. Patterson
Commissioner Lyons Gray
Commissioner Daniel G. Clodfelter
Commissioner Charlotte A. Mitchell

IN THE MATTER OF:

Application by Aqua North Carolina, Inc.,
202 MacKenan Court, Cary, North Carolina 27511,
for Authority to Adjust and Increase Rates
for Water and Sewer Utility Service in
All Service Areas in North Carolina

Volume 12

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TABLE OF CONTENTS

EXAMINATIONS

E X H I B I T S

IDENTIFIED/ADMITTED

PROCEEDINGS

COMMISSIONER BROWN-BLAND: All right. Let's come back to order, go back on the record. Mr. Grantmyre, we're still with you.

CONTINUED REDIRECT EXAMINATION BY MR. GRANTMYRE:

Q Mr. Junis --

COMMISSIONER GRAY: Sir? Thank you very much.

COMMISSIONER BROWN-BLAND: Everybody will be dreaming about pulling their mics up.

Q Mr. Junis, you were -- earlier today you saw Aqua Junis Cross Exam Exhibit 6 which was an email from Chandra Farmer to Ruffin Poole of Aqua, correct?

A Yes, sir.

Q And that was dated two days after you filed your testimony, correct?

A My direct testimony, yes.

Q And was the Public Staff ever provided a copy of this email prior to today?

A This is the first time I've seen this document.

Q And the Public Staff had requested in a -- one of the first emails that we -- that the data request would be continuing requests?

A That is correct.

Q Okay. Now, getting back to Carolina Meadows,

are you aware that that excess capacity adjustment has been made in three prior rate cases?

A Yes. I believe it's been at least two prior rate cases and then this case.

Q And the 209 case, I believe that was, whatever the number was, will you accept, subject to check, that it was also in that rate case?

A Yes, sir.

Q Now, you were asked a lot about this $1.7 million upgrade or expansion or whatever it was, correct?

A The -- yeah, multiple projects, yes.

Q And it's your understanding on the three systems that the Public Staff made -- well, first of all, the Company, when it filed its application, had an excess capacity adjustment for all three of these systems, correct?

A That is correct.

Q And is it your understanding that all three of these systems are ones that the Company expended a large amount of money on upgrades that could have been done by the developer?

A That is correct.

Q And I give you an example of Cannonsgate at Bogue Sound. You examined that in this rate case, too,

didn't you?

A Yes, sir. So as I previously stated, there are more than one and more than three wastewater treatment plants that have what would be referred to as unused capacity. However, in those cases that was contributed plant as opposed to the Company taking the risk with these three specific ones that I'm recommending an adjustment.

Q Now, at Cannonsgate, isn't it true that they spent about $1.2 million in upgrades or replacements?

A That's correct. They replaced the MBR, so the membranes of that plant.

Q And they made other improvements. There were about 12 or 15 line items.

A Multiple line items, but the big project was the membrane replacement.

Q And the Public Staff did not make that adjustment for Cannonsgate because in that contract they did not assume the developer's risk; is that correct?

A That is correct.

Q Now --

MR. GRANTMYRE: (To Ms. Culpepper) Okay. Let's switch. Let's do this one, then that one. Thank you.

Q We're going to finish up on Carolina Meadows and move on.

MR. GRANTMYRE: I ask that this be identified as Public Staff Junis Redirect Number 5.

COMMISSIONER BROWN-BLAND: I think we're at Number 4.

MR. GRANTMYRE: Okay. Four (4).

COMMISSIONER BROWN-BLAND: This document labeled Aqua Response EDR 52 will be identified as Public Staff Junis Redirect Exhibit 4.

(Whereupon, Public Staff Junis Redirect Exhibit 4 was marked for identification.)

Q Now, you recognize this as the Aqua response to one of your Engineering Data Requests Number 52?

A Yes, sir.

Q And you've had to send several times to get this because the first one or two responses Carol --

MR. DWIGHT ALLEN: I -- objection to that. He's testifying now again. He can ask the question about the exhibit --

COMMISSIONER BROWN-BLAND: Sustained.

MR. DWIGHT ALLEN: -- but he doesn't have to give comment.

COMMISSIONER BROWN-BLAND: Sustained, sustained.

MR. GRANTMYRE: Okay.

Q What happened on the prior responses of this as far as Carolina Meadows?

A So there were -- this is the third of four data requests related to the topic of excess capacity. I specifically had to ask in EDR 52 that the Carolina Meadows plant be included in the list. The previous lists only covered 57 wastewater treatment plants when the Company has 59.

Q So your testimony is that Carolina Meadows was added in this one?

A That's correct, and it was specifically requested.

Q And the third column over, Permitted Flow, million gallons a day, what does it say for the permitted flow?

A That would .35, which is equal to 350,000 gallons.

Q And so basically, according to this data request response, there has been no reduction in the permitted capacity for Carolina Meadows?

A That's correct, and this is a relatively recent

EDR. I mean, we only sent 62, and this is the 52nd.

Q Now, I refer you to the last column REUs June 2018. What does that say for Carolina Meadows?

A So that says 448.

Q And what did you do with -- what did you observe about that?

A So this amount was actually below the number of REUs used in the excess capacity adjustment last rate case, so I then sent an additional Engineering Data Request for the Company to verify this amount and provide documentation supporting whatever number they came to, which actually ended up being a higher number to the benefit of the Company.

Q So you're testifying that you went back to the Company and asked them was their number correct, and they gave you a higher number which was to their benefit?

A Correct. I even talked to Mr. Melton on the phone to explain what I was looking for with that additional data request and had to clarify that I had -- this amount was lower than the previous rate cases.

MR. GRANTMYRE: (To Ms. Culpepper) Yeah. Let's go with this now.

We ask that this be identified as Public Staff Junis Redirect Exhibit Number 5.

COMMISSIONER BROWN-BLAND: This document will be identified as Public Staff Junis Redirect Exhibit 5, and it's the one that on the front page has the -- under Note has a caption "Review of Potential Filtration Systems and Semi-Annual Reports to Commission."

(Whereupon, Public Staff Junis Redirect Exhibit 5 was marked for identification.)

Q Could you please identify what this document is?

A So this is a list of items that the Public Staff requests be submitted as part of the Company's proposals for greensand filters through the WSIC system or through the WSIC mechanism. So this is our basically detailed review and information we feel is necessary to make a recommendation to the Commission related to the approval of such a filter.

Q And we also look at it for the semi-annual reports?

A That is correct.

Q And are all these documents or information that we're requesting in the custody of the -- or custody and control of the Company?

A That is correct.

Q And like the first one, if you're looking at a filter, isn't it important to know the current customers on the system?

A Yes, so then you can get an idea of demand on that system.

Q And number 2, "Estimated total numbers at buildout"?

A Correct. So then you have an idea of how much water are they going to need on that full buildout.

Q And it's also -- if it's a multi-well system, you want to know how many other wells are on there, is that correct, number 3?

A Right. So that is to the idea of could they potentially put a well offline. Do they have, perhaps, an excess amount of production to allow that, or can you make a lead/lag situation? There's numerous reasons of why that's important to know how many wells service the system.

Q And why is a map, a simple map of the system showing the location of each well?

A So a simple map would be beneficial for if you were going to consider, perhaps, interconnecting two wells and providing one site of treatment so you could functionally filter two wells with one, which is half the

cost if you had to filter both. And they've actually done that based on the Public Staff's recommendation at least once, if not twice.

MR. DWIGHT ALLEN: Can I inquire as to what this is redirect for?

MR. GRANTMYRE: The Company questioned the Public Staff's approval and how we approve stuff. I think it's important that if we're going to be questioned on how we approve stuff and criticized, we should be able to explain what the process is that we go through.

MR. DWIGHT ALLEN: All we asked you was did you recommend that the number of filters being increased, so we --

MR. GRANTMYRE: No. You asked us --

MR. DWIGHT ALLEN: -- didn't really get into the details.

MR. GRANTMYRE: -- about Upchurch and why we didn't submit it to the Commission.

COMMISSIONER BROWN-BLAND: I'll allow it. Move on.

Q Now, the approval letter for each well, can you explain why we should have that in our review?

A So that would be the design or expectation of how much production that well would have. They would do

a well test on that well so you have an idea of how much production it should have. And in some cases you may see a decrease in production, and that could be due to the water levels or it could be due to a worn out pump, and so that would be part of our analysis.

Q But what that is, that's what they call 24-hour well drawdown test that is done before Public Water Supply approves the well.

A That's correct.

Q And it tells you what the well originally had, at least, in capacity; is that correct?

A That is correct.

Q And number 6, could you explain why that is used?

A So the reason we would ask for the original inorganic analysis is did the Company know when they took this well that there was a water quality issue right from the start, and should the developer have contributed towards the filtration as opposed to handing over a dirty well that's going to need investment by the Company and recovered through customers' rates? It also gives you a baseline. Have we seen a deterioration of the water quality or was a sample uncharacteristic of the water quality of that well? So you might have one spike and

you can look back and say, well, initially this was much lower.

Q Now, number 7, could you explain what that is?

A Yeah. So they're required typically to take an inorganic sample that would include iron and manganese concentration levels every three years. So functionally we're asking for the last three samples with that in question.

Q And number 8, what is the purpose of that?

A So we're trying to get an idea of have they tried sequestration, have they tried other forms of treatment, and has it been recently or a long time ago, and depending on the product, also.

Q Now, number 9, could you explain what that is?

A So this is an important analysis that you would look at the soluble and insoluble because you can then measure is sequestration being effective. And it also would be characteristic of would it be potentially effective if you haven't already used sequestration.

Q And number 10, could you please explain what a Pump Status Report is?

A So this is a key piece to our analysis, and what it is, is every time that that operator goes out, he will record the meter reading on that well, and they also

have a timeclock for how much that pump is operated, and so you'll get the production rate, the gallons per minute of that well, you'll get the -- you can calculate the average hours it operated on a daily basis, and you can also see by date when is it operating. So did you have a slug of dirty water because the bad well was operating instead of the good well, or was there a system outage? And you can also identify are you seeing a decrease in production potentially characteristic of a pump impeller wearing out.

Q Well, you say you can calculate, but actually the Pump Status Report calculates the average hours per day, the average gallons per minute, and also the length of time, the average run time for the well; is that correct?

A Correct. It takes those inputs and basically automatically calculates them, but it's information that the Company solely has, not the Public Staff.

Q And haven't the Public Staff discovered on a number of occasions, or have they discovered on a number of occasions that the bad well is doing -- providing the water, and for whatever reason the good well is not pumping, and this is indicated from the Pump Status Report?

A There's occasions of that. There's other operational concerns. There was the Stonehenge outage that then they interconnected with the City of Raleigh. I mean, there are scenarios where this really needs to be monitored for their operations.

Q Now, number 12, why is that important?

A So, again, the idea of what the Company refers to as legacy iron and manganese, is there a buildup in the mains that is potentially contributing to discolored water and it's not necessarily the source at that given point of time because it has -- got a build-up of sediment in the mains and they're not properly flushing on a systematic basis.

Q Now, with regard to 13, this corresponds a lot to what the Commission has required in the semi-annual testing, isn't it?

A Right. So customer complaints is just another indicator of what is the quality of service that's being delivered to customers. And the Commission required the last rate case, obviously, to look at those semi-annual reports, and there's a reporting requirement of the lesser of either 10 percent in terms of number of customer complaints or 25 complaints.

Q Now, number 14, will you please explain the

purpose of that?

A So this is to get an idea of is the Company actively working with Public Water Supply, is Public Water Supply having input on these systems, and have Public Water Supply expressed concerns, for example, in the form of a Notice of Deficiency that we're not necessarily copied on.

Q And what is the purpose of 15?

A So that's to get an idea of are they proposing a filter system? Has there been a filter system before? So if there's an existing one, have they had problems operational or is that perhaps a manufacturer that they should steer clear of?

Q And number 16?

A So cost is obviously important, both from our standpoint, the Commission, and the customers, and I think the Company, so we want not only the capital cost, but also the operational cost which goes into 17, also.

Q And why is 18 important?

A So depending on the location of your hydro tank, that can impact how you maintain pressure on the system. And that's part of the problem that happened with Waterfall Plantation, is depending on where your water is -- your water sources are located and if they

have to either pump to or the hydro tank is located in a spot that creates operational problems. So if you have customers that are located at an elevation higher than the rest of your system, and so it's harder to keep pressure to those customers.

Q And why is 19 important?

A So, again, this is similar to the idea of flushing, but you can have sediment or buildup on the walls of a hydro tank that could contribute to discolored water events.

Q Now, actually, you said you were out there when -- two years ago, approximately, I believe, when they cleaned the interior of the Upchurch hydropneumatic tank; is that correct?

A That is correct.

Q And I was there with you and watched the entire process?

A That is correct.

Q And that same day they flushed the system; isn't that correct?

A I believe it was that same day.

Q And how many hours did it take to complete -- and we watched the entire flushing, correct?

A That's correct.

Q And how many -- how many blowoff points did they use to do the flushing?

A I believe they had two blowoff points on the Upchurch system.

Q And how long did the flushing take?

A I would say at most a couple hours, but that's at most.

Q Do you know of any reason why, having observed that flushing, that Aqua has to give a flushing notice that says we'll flush Monday through Friday if it's a system that only takes two hours, why they can't give a specific day and --

MR. DWIGHT ALLEN: Objection. This is not redirect.

COMMISSIONER BROWN-BLAND: I'm going to sustain that.

MR. GRANTMYRE: Okay.

Q Well, what are -- once the Public Staff gets these documents, can you please explain what the Public Staff does --

A So --

Q -- after -- how we review this?

A Sorry. What I just want to add on the hydro tank cleaning, they used internal labor to do that tank

cleaning when we watched, and I actually observed --

MR. DWIGHT ALLEN: This is not redirect, either. This is just preaching to the Commission.

THE WITNESS: No --

MR. DWIGHT ALLEN: I don't know that -- it's not in response to a question, is it?

MR. GRANTMYRE: You brought Upchurch up, and he's talking about Upchurch.

THE WITNESS: And I believe there was a -- if you don't mind, I believe there was a question about using contract labor versus internal labor on the tank cleanings at one point.

MR. DWIGHT ALLEN: No, there was not. That had to do with meter replacement. There wasn't a question about --

COMMISSIONER BROWN-BLAND: His direct, I don't recall that there was a --

THE WITNESS: Okay.

COMMISSIONER BROWN-BLAND: -- tank cleaning.

Q Can you explain the process the Public Staff goes through?

A So we would review in detail all of these items and the Company's summary, and then we may have follow-up questions. You know, there may be prompts of, okay, this

is a multi-well system, what's going on with this other well, or we'll identify operational issues out of that Pump Status Report. A very important piece is that water quality or what level are we looking at, to the point of is it in excess of the health advisory? And so this is all balanced in our analysis. Mr. Grantmyre and I do separate reviews of this information, and then we will typically come together and meet, talk through what our findings are. Ms. Darden has participated in these reviews. And so it's very detailed and comprehensive because we take this very seriously. This is a big investment, and on the scale that we're talking about, it would have a large rate impact.

Q And when you say you and I and Ms. Darden, if she's involved, investigate it completely, when we come together, sometimes we all agree that, yes, they should have a filter and that's it?

A Right. And then we would communicate that to the Company, or we may have certain items that we would seek additional information, and we would submit that to the Company, but we always try to be transparent with our analysis.

Q And it helps if they furnish us the complete information on this list to begin with?

A That is very helpful.

Q And if they do not, does it slow the process?

A We then have to give feedback on what's missing and if we have additional questions.

MR. GRANTMYRE: Let me see what else we've got here. We would ask that this next document be identified as Public Staff Redirect Exhibit Number 6, Junis Redirect Number 6.

COMMISSIONER BROWN-BLAND: This document will be so identified as Public Staff Junis Redirect Exhibit 6.

(Whereupon, Public Staff Junis Redirect Exhibit 6 was marked for identification.)

Q Can you read the caption on page 1?

A So this was filed in Docket No. W-218, Sub 363A, and is the Public Staff Secondary Water Quality Report and Recommendations.

Q And it was filed on March 26, 2018?

A That's correct.

Q And I turn you to page 5 -- I'm sorry -- page 6. Will you please read into the record the second paragraph that's highlighted, beginning with "Aqua has estimated"?

A "Aqua has estimated the 2 applied for manganese greensand type filter projects will cost a total of $565,000 to $595,000. The annual revenue requirement increase for the minimum capital expenditure of $565,000 for these 2 filtration systems is approximately $73,004 compared to the annual revenue requirement for the chemical cost for sequestration of approximately $494. As there is such a significant revenue requirement impact, the decisions to install manganese greensand type filters should be made judiciously."

Q Now, you were questioned about 6 cents per customer per month. Isn't this -- and it was 6 to 1 differential. Isn't this greater than a 6 to 1 differential?

A Yes, sir.

Q Now --

A I would just submit that it's approximately 140 times.

Q Now, moving on to the -- and I am getting close to the end, so that's the good news -- the issue of the line locates. Now, Aqua, in its response, said they got, what, about 60,000 notices to locate within the test year; is that correct? Ballpark.

A I'm trying to remember. So, yeah, I used

56,000 based on the two known months at the time in my testimony.

Q Well, that's what you were predicting going forward of the two months.

A Correct.

Q But during the test year they said they got roughly 60,000 locates?

A Yes, sir.

Q And how many of those they thought were in their service territory, ballpark?

A I believe it was like 40 percent.

Q And how many -- so that would be 40 percent of 60 would be somewhere around, whatever the math is, 24,000; is that correct?

A Yes, sir.

Q Okay. And didn't Aqua tell you in a data response that they only located actually about 10 percent of those?

A Correct. And that's stated on page 56 of my testimony.

Q Now, if they had 24,000 and they only actually did 2,400, that means there were roughly 21,000 that they were requested to locate, but they did not locate, is that correct --

A Right.

Q -- based on their response?

A And that deficiency was noted by -- I believe it was the Underground Control Board. I forget the exact acronym. And that was filed within dockets before this Commission.

Q Could you briefly describe when there's a locate, what is the person that goes out there do to locate or to mark the locate?

A Yeah. So you're going to go out and you want to do a pretty accurate location marked with paint on the surface of the ground of where utilities are. This is really important during construction activities, and I've observed this in my career both as a consulting engineer and as an intern prior to that. If gas lines, electric lines, and water and sewer lines are not properly located, it can put people in serious harm's way.

I actually watched a guy, he thought it was a old retired water main or sewer line, and he took a saw and started to cut into it, and that ended up being a gas line, and he is lucky to have his life that that did not ignite and blow him up. But it created this -- I've never heard such a loud hiss. It was almost like a train was going by, that's how loud it was. So this is a

serious safety concern.

Q So a company, if it fails to mark when requested, it's possible that -- or is it possible that other persons digging there may cut the Company's lines because they don't know they're there?

A Right. And if it's not properly located, the Company, they would then be liable for those repairs and replacements.

Q And the Company does not track, or do they track, you know, lines that were cut because they failed to -- their lines that they failed to locate?

MR. DWIGHT ALLEN: I'm going to object again. The only cross examination we had on this --

COMMISSIONER BROWN-BLAND: I'm going to sustain.

MR. DWIGHT ALLEN: -- was the use of four people.

COMMISSIONER BROWN-BLAND: Sustained.

MR. DWIGHT ALLEN: We didn't go into all the detail on this.

MR. GRANTMYRE: Well, we were talking about cost reductions and, you know, this is a cost that the Company expends because they didn't locate their lines. And the Public Staff didn't make an adjustment on this,

and we're just trying to get a feel for how many times they failed to locate that they had cut lines that the customers are paying for, and it's not the customers' fault that they did not locate the lines.

MR. DWIGHT ALLEN: Well, they should put that in their direct case. The point is there was no cross examination on this, and you didn't even address it in your direct in that degree of detail. You talked about the number of people that were involved.

COMMISSIONER BROWN-BLAND: Sustained.

MR. GRANTMYRE: Okay.

Q Now, you were asked about the delay of the Public Staff in some of the data requests. Isn't it true that the updates were provided by the Company on July 20th?

A I believe that would be correct.

Q And at that time did the Public Staff have to do significant data requests on the updates?

A Yes, sir.

Q Okay.

MR. GRANTMYRE: I have no further questions.

COMMISSIONER BROWN-BLAND: All right. Questions by the Commission? Chairman Finley.

EXAMINATION BY CHAIRMAN FINLEY:

Q Mr. Junis, if you would turn to page 47 of your direct prefiled testimony, please.

A Yes, sir. I'm there.

Q I'll read part of it, beginning on line 16. "In 2006, subsequent," and this is having to do with the Buffalo Creek lift station and force main. "In 2006, subsequent to acquiring Heater, Aqua begin invoicing and receiving payments for wastewater capacity on the Buffalo Creek side. The $440,816 divided equally to 2,000 single-family residential equivalent is $220.41 per SFRE. Aqua failed to invoice developers their portion of the lift station and force main cost at $220.41 per SFRE up until July 12, 2018, when Aqua sent a letter to Rebecca Flowers providing notice of fee changes. The unrecovered CIAC amounts to $315,687, which is $220.41 per SFRE for $1,432.27 residential equivalent units," right?

A Yes, sir.

Q And what I'm interested in is -- and that's an adjustment that you recommend based on this meeting that you had in April of 2018 that led you to go back and look at some of these contracts between Aqua and the developers in the Flowers Plantation area, right?

A It came across my attention when reviewing those contracts and getting all this CIAC and rate base

information.

Q And what I'm interested in for the most part to begin with here is how much of this $315,687 was CIAC that you maintain should have been collected prior to the Order in the Company's last rate case?

A I can certainly get you that as a late-filed exhibit. I would base it off the data in Exhibit 14 and 16. Well -- yeah.

Q Okay. I would appreciate you doing that, but can you just ballpark what percentage of this might have been CIAC that you maintain should have been collected before the Company's last Order in the rate case?

A So would it be appropriate to go to the last rate case update period, which I believe was October of 2013? And so if you look at Junis Exhibit Number 16, just from the list, based on line items, I would say less than half of that was last rate case, but looking at the dollars in CIAC collected, it was, again, $700,000 ballpark last rate case collected in CIAC, and then since last rate case it's 1.2 million, so I could argue that it's a shade over a third was -- would have been last rate case.

Q So approximately half minus the $700,000; is that what you're saying?

A No, no, no, no. I'm sorry. That $300,000, what I'm saying is of capacity fees, the Company has collect--- had collected $700,000 up to the update period last rate case --

Q Uh-huh.

A -- and collected approximately just over 1.2 million this rate case, so saying that's just over a third, I would say over $100,000 of my recommended adjustment, that money should have been collected as of last rate case. Does that make sense?

Q It makes sense. Now, what did the -- you say that Aqua failed to invoice the developers, so what developers are we talking about? Are we talking River Dell and Ms. Flowers? Are there other developers that would have --

A There is --

Q -- should have been contributing to CIAC?

A I'm sorry. I didn't mean to cut you off. It would be secondary developers. That may include Ms. Flowers or it would be other companies. So there's tract builders that have taken over those responsibilities as secondary developers.

Q And all of those developers, before they provided service to any lots, they should have filed with

this Commission the contracts with Aqua, right?

A Yes, sir.

Q Before you can provide service pursuant to contiguous extension, you've got to give notification to the Commission, and in order to give notification, one of the requirements is you've got to provide the contract?

A Yes, sir.

Q And if you're going to have a certificate of public convenience and necessity, likewise, you've got to get permission by the Commission before you can sell lots and you've got to file the contract that you got with Aqua before you can do that?

A Yes, sir.

Q What did those contracts say with respect to what Aqua would do as far as charging those developers CIAC?

A So for the Buffalo Creek side, that would be the language dealing with the same connection -- or I'm sorry -- capacity fee as what's charged to Aqua by the County, and there's numerous examples, obviously, of that contract language, and then there's no mention of recovering the Buffalo Creek lift station and force main.

Q Okay. But isn't Aqua supposed to pay Johnston County for the Buffalo Creek lift station and force main,

and is not the requirement that you get from the developer amount equal to what is charged by the County to Aqua part of the contracts?

A So the Buffalo Creek lift station is not with the County, so that was between the developer and --

Q Okay.

A -- the Utility. And so then the developer is -- the intention from the contract is that the developer, where it's going to the secondary developers, would offset the Utility's investment in that lift station and force main.

Q So when Aqua attempted to enforce the contract terms with what you call secondary developers, did they violate the contract or did what they charge coincide with what the contract said?

A Are you referring to the capacity fees or this new letter suggesting they were going to charge for the recovery of the lift station?

Q Well, I'm talking about what you say they didn't collect with respect to $315,678.

A So do you mind repeating that question, then, for me?

Q Yes. With respect to Aqua's failure to collect this $315,687, did they do that in violation of their

contracts with these developers or was it consistent with what those contracts said with respect to that CIAC?

A So those secondary developer contracts, it's my understanding, do not carry forward the same language from these 1999 through 2002 contracts referring to the recovery of this pump station and force main, I believe. I don't recall exactly the -- all those contracts.

Q Well, under what obligation, then, did Aqua have to collect this $315,687 from these secondary developers, then?

A Well, I think they clearly have an obligation from these original contracts, which all the -- of the secondary developer contracts should have been based on. I think it was basically a mistake to not include that language in those secondary developer contracts.

Q Okay. So you're telling me that the secondary developer contracts were silent with respect to the obligation of those developers to pay Aqua CIAC with respect to the Buffalo Creek lift station and force main?

A That is my understanding.

Q All right. Now, what is your understanding of a requirement that a developer or a lot owner pay to Aqua or to another water/sewer public utility connection fee, sometimes we call them tap fees, sometimes we call them

plant modification fees? When that's in a contract, doesn't that sort of become the tariff of the water and sewer company?

A Typically, a very common thing on a tariff is a connection fee, yes, sir.

Q All right. Are you aware, Mr. Junis, of a Carolina Water Service case back in the 1990s where the Public Staff was making related claims that Carolina Water Service had failed to collect sufficient contribution in aid of construction because what they collected was pursuant to the contracts with what we're calling secondary developers versus the uniform connection fee that Carolina Water Service had in its tariff?

A I personally am not familiar with that case.

Q Well, if the contract sets the terms of the obligation of the Utility to collect a contribution in aid of construction and that is deemed to be the tariff, how can Aqua be remiss in not collecting that fee when the contract is silent about it?

A I think it was Aqua's responsibility that that language be included in that secondary developer contract. I mean, they were a party or took over the responsibilities of the party that was originally in

these contracts from 1999 through 2002, and so they would carry that responsibility, in my opinion.

Q Well, but, again, they are -- before they can -- before the secondary developer can sell the lots, that contract has got to be filed with the Commission in a contiguous extension notification or a certificate of public convenience and necessity, right?

A That is correct, sir.

Q And that is procedurally handled by the Public Staff bringing those notifications and requests to the Commission pursuant to those contracts, and commenting upon what those contracts say with respect to contribution in aid of construction and other items?

A That would be correct.

Q All right. So is it your view, then, with respect to these secondary contracts at issue here, that in bringing those contracts to the Commission that the Public Staff bore no responsibility to bring this issue to the Commission back at the time that the contracts were filed?

A I think there would be an issue of do these secondary developer contracts refer to the language of these original contracts to give you a clue. Let's say from my personal experience in reviewing these, if that

contract that's filed with that contiguous extension didn't refer to these original contracts, I personally wouldn't know that those old contracts existed and should have a bearing on that secondary developer contract.

Q Well, those old contracts were not hidden or precluded in some fashion for -- precluding in some fashion the Public Staff's ability to look at them and see what they said?

A They were certainly available, but there would be no clue to me personally, not having dealt with at the time these issues, that they even -- they existed and, like I said, had a bearing on what those secondary developer contracts should state.

Q Well, they wouldn't have been obvious to you because you weren't even around when those contracts were entered into and filed with the Commission way back when, right?

A That's correct.

Q All right. But with respect to CIAC, contribution in aid of contribution, that you maintain should have been collected before the Order in the Commission's last case, somebody with the Public Staff audited the Company's books and records and looked at their plant in service account and looked at their

contributions in aid of construction accounts and determined for whatever reason that this additional CIAC that you maintain should have been found was not?

A That's correct.

Q All right.

CHAIRMAN FINLEY: Okay. Thank you.

COMMISSIONER BROWN-BLAND: Commissioner Clodfelter?

COMMISSIONER CLODFELTER: Thank you. Chairman Finley covered several questions that I was going to ask, so let me address a different topic.

EXAMINATION BY COMMISSIONER CLODFELTER:

Q I want to ask some questions about the AMR technology.

A Yes, sir.

Q When you were doing your little demonstration, did I understand you to say in response to a question that what you had done was exchange one standard meter for another and then you had a module that would give it the AMR capability --

A That's correct.

Q -- the E -- what did you call it, the ERT?

A Yeah. The ERT.

Q Is that something that -- is that module

something that requires a special adaptor on the standard meter? Could you use an existing standard meter, in other words --

A So --

Q -- and simply bolt that onto it?

A Sorry. I didn't mean to cut you off.

Q That's all right.

Q So you have to have that wired connection --

Q Right.

A -- and so you need that connection. And then typically an AMR or AMI ready meter is going to have like a clip or a slot for that ERT that looks kind of like a mushroom or antenna to slide right on or snap on, or you may have to bolt it on, I guess, and then you just plug it in.

Q So the so-called standard meter that's AMR ready is not really standard; it's modified, in other words --

A That's correct.

Q -- so that it can accommodate the ERT?

A That's correct.

Q Right. And that's why you have to swap out the meter itself?

A Yes, sir.

Q Got it. That's the technology question. Now, so let me -- go ahead.

A I would just like to finish that. You can actually change out the dial, so the physical meter base can remain and you can just change out the dial and that face, but it's probably not a cost beneficial thing unless that meter is really new to just do one component as to the whole thing.

Q Because? Why is it not cost beneficial? Is that higher cost than replacing the entire meter?

A Well, it's not a higher cost, but then the base of that meter and the piping is going to be older than the dial, and so you may get buildup or sedimentation that impacts the accuracy of that meter prior to the actual aging of the dial and the battery associated with it. So you may have to go back now and make a replacement based on the base of that meter instead of the whole thing.

Q Okay. Thank you. The following question, then, is, is an AMR ready meter, can that meter also be AMI ready?

A Yes, sir.

Q So the meter that you swapped out in your demonstration could also be -- accommodate an AMI module?

A I don't know about that meter specifically, but it is common technology now to have both functionalities.

Q Well, what about the meters that Aqua proposes to install? Will they be dual capable?

A It's my understanding that they would be AMI and AMR ready.

Q They would be both AMR and AMI ready. Where I'm driving with this, I think you probably know, is we've just been through a situation where we had on the electric side massive investment in AMR meters, and we still had useful life, useful functionality, and unrecovered cost, and we were suddenly changing them out again because of a technology change. That's not going to happen on these meters if Aqua later decides to go from AMR to AMI technology; is that correct?

A It's my understanding that would not happen with these meters. Obviously, there are costs for the infrastructure to collect that information. You would then have fixed points --

Q Sure.

A -- that takes a propagation study for that signal. There are complexities to that.

Q Sure. You've got to have the network as well, too, to receive and transmit the signals.

A Yes, sir, and that's not free.

Q I understand that. Okay. But I'm talking about just the meter itself.

A Yeah.

Q Well, let me think about, then, whether this is worthwhile asking. Aside from the network costs, let's call them the non-meter costs, of setting up the AMI network, is there any other cost-based reason not to go directly from a standard meter to an AMI meter, just looking at the meter itself?

A You mean from an AMR meter to an AMI?

Q No. From a standard meter to an AMI, in other words, to skip the intermediate AMR step. I understand you've got to build the network infrastructure. That's cost, too. Leaving that aside, understanding that, is there anything else about the meter itself, about the installation of the meter, about the technology of the meter that would say, oh, you don't want to jump straight from a standard meter to an AMI meter?

A An AMR or an AMI necessitates that meter and the ERT --

Q Okay.

A -- the same.

Q It's all, then, the cost associated with

establishing the towers and the networks and doing your study to make sure you --

A There's --

Q That's the reason not to go straight to AMI?

A There's network software issues.

Q Right.

A There are a lot of costs there. And, again, we've seen over time that this technology continues to develop, and so AMR and AMI technology of five years ago wasn't necessarily as good as it is today, and are we going to see additional leaps forward with that technology that makes it more reliable, because that was part of the issue that Envirolink was facing. There was what they called 40 and 60W and now the current models, I think, are 100W, and that deals with the battery technology and the strength of that signal for those meters.

Q Well, thank you for that. I've asked you these questions because you're on the stand right now, but I think the Company knows what my interest is, so maybe on rebuttal they can talk about it, too. But, again, what I'm interested in understanding is if Aqua North Carolina later in the future decides that it's ready to go and launch AMI technology and the purported benefits of AMI

technology, are we going to have to do a new set of meters again? Are we going to be back in the Duke Energy situation or not? That's the whole purpose of my questions.

A Gotcha. And just to add on, we certainly ask this question of have you all done your due diligence to consider going to AMI and potentially is that cost beneficial for the customers, and they basically said no, that we have AMR for Aqua America, and so we're not going to kind of move forward on that.

COMMISSIONER CLODFELTER: Thank you.

COMMISSIONER BROWN-BLAND: Commissioner Patterson.

COMMISSIONER PATTERSON: I've just got a couple, two or three. Can you hear me? I just -- a couple of questions, clarifications, whatever.

EXAMINATION BY COMMISSIONER PATTERSON:

Q On this Public Staff 5, the review of potential filtration, that report, items 1 and 2, what if you have a very small, say, 50 or 60 houses in a development, they're not close to any other Aqua situations, and they've got bad iron and manganese problems? Are they just out of luck?

A No. So, actually, a lot of Aqua systems fall

in that size category, and once you hit 50 connections, you actually have to have two wells. And so it's certainly considered of how many customers are you going to impact with a filter, but also you have to weigh how bad that water is. So they're not left out because they're on a smaller system. That's the whole purpose of uniform rates, is to share that cost burden.

Q I understand, but the questions are there --

A Yes, sir.

Q -- so I'm asking for that reason. What's the main reason for going to these -- getting all these acronyms -- AMR meters? In your opinion, what's the main reason?

A So I think there is -- there is additional data. I think the problem with AMR is the timing of that data aligns exactly with a manual read, so you either send a person out to go read that meter or you roll a truck. With AMR you do have some history that you can download, but I think there -- and this is sort of to my knowledge, there may be the wand type that you can actually do the same thing. It doesn't have to be a drive by that may have that storage capability. But I think the big -- the gain there is the time, I think, with being able to just drive by instead of walking by.

But in my humble opinion, AMI has the most potential functionalities and most potential benefit to customers. It's just a matter of the cost. But there are lots of vendors and this is a competitive market that, I think, due diligence is appropriate.

Q On that meter that you showed, it had a -- it looked like to me an electric wire coming from it?

A Yes, sir. So that was an --

Q Where does that go?

A I'm sorry. That's an AMR/AMI ready meter. So that cord would plug into the ERT or antenna that would then stick onto that meter. But --

Q I mean, is that -- does power go to it from somewhere?

A Yes. And there's a battery in that meter.

Q Oh, okay. All right. That answers that. And when the person installs this meter and turns on the water to flush it, does he stay there or does he just leave the water running --

A Oh, no. He --

Q -- and hope somebody remembers?

A He's going to stay there. You're not flushing for very long. You just want to clear that service line of potentially any water that was impacted by that

change.

Q So how long does this take?

A They're typically going to flush it a couple of minutes.

Q A couple of minutes?

A He's going to stand there.

Q And when this meter is installed, does anything else happen with the -- with that installation? I mean, does anything happen back in the Aqua office that's relative to that?

A So certainly, and that's what you talked about, you would either log that meter number and those readings for both the meter you're changing out and the meter you're putting in, because then you have to do the billing appropriately for that period of time.. And you also want to associate that meter number and that meter reading with that premise.

Q So there are other people that have to be involved other than that person?

A Yes, sir, administrative.

Q All right. My notes have gotten cold here. That's pretty much what I was -- wanted to ask.

A All right.

COMMISSIONER PATTERSON: Thank you.

THE WITNESS: Thank you, sir.

COMMISSIONER BROWN-BLAND: Commissioner Mitchell.

EXAMINATION BY COMMISSIONER MITCHELL:

Q Mr. Junis, I have some questions for you on meters. And a couple of them have already been asked, so I will just ask you the ones that have not yet.

You, in your testimony and even here today in the discussion with the various lawyers, you've talked about the fact that with the AMR meters you're sort of missing the opportunity to visually inspect the meter on a regular basis and that can pose problems. In the municipal jurisdictions in North Carolina that have installed smart meters, has this been a problem in those jurisdictions?

A So I believe Mr. Grantmyre has commented on this and potentially even Mr. Bennink, that you can get -- those meters will become overgrown and it becomes hard to locate them unless you have really good record drawings or GIS data for the location of that. And then so if you ever have a problem or you need to go and confirm a read or replace that meter, it's now going to take more time. And so I would expect that the municipals are dealing with that problem.

I know personally from my yard, my grass is starting to make its way over that lid, so you would be lost if you just walked up to the yard looking for it.

Q And for those municipal jurisdictions that you're familiar with in North Carolina that have installed smart meters, is it AMR? Is it exclusively AMR or --

A It's a mix, and so the Environmental Finance Center talks about that in their report that's filed in Docket W-218, Sub 363. And so like I know Cary has AMI. They were actually in attendance at that meeting with Sensus. Both Ms. Sanford and Mr. Grantmyre were in attendance and myself. And a concern that was raised there was participation. How many customers are actually logging on to their portal to look at the information that's available to them, so how much benefit is actually being passed to the customer?

Q So let's talk some about benefits to customers because it's -- I understand the Public Staff's position to be that at this point in time there isn't sufficient -- there isn't a net positive for customers and that there is no net benefit to the customer. What would it take for -- what does the Company have to do? What would it take for the Public Staff to determine that there is a

net benefit to customers?

A So number one, we gave them the benefit of the doubt on the 86 cents of savings. I think a beneficial analysis would be look at what are the actual cost savings they've experienced both on the Brookwood system and now on the meters they've installed for Aqua NC Water Rate Division. I think you have to pass this data or this power to customers. If they don't have access to it, they are at a significant disadvantage and then also cannot change their usage habits. I know this discussion popped up in the Duke cases. You can't benefit from that data without access to it.

Do I have a hardline number personally of what's an appropriate cost, incremental cost? I don't have one off the top of my head.

Q Is there any municipal jurisdiction that's utilizing AMR that has provided access to customers that the Public Staff has --

A I don't -- I'm sorry. I didn't --

Q -- has determined to be beneficial or sort of achieves the purpose that you would like to see this technology used?

A We didn't look at that specifically with any municipalities.

Q Okay. Can you help me? On pages 35 and 38 of your direct testimony you discuss the meters that are being replaced as part of Aqua's meter replacement program. And I -- can you just help me understand the Public Staff's position on the cost of those meters? I mean, so on -- specifically on page 35 you discuss average service life and how that may have changed, and then 38 you discuss -- you recommended a disallowance. So can you just help me understand both of those two issues?

A So the way they're retiring these assets is it's group depreciation, and so they have removed them, but you don't change the depreciation time. But if you would go to a future rate case, if you retire these at 17 years, which is seven years less than they previously were, you may see the depreciation rate increase in the next depreciation study which then has a bigger rate impact on customers for the recovery of these meters. So that's one piece and why I point out the service life and also that they are retiring them earlier than previously they had done. And then the cost disallowance is based on my analysis of both that the meter cost more and the labor required cost significantly more than I had calculated based on my assumptions.

Q Okay. So that disallowance relates to the new meters, not to the meters being replaced?

A So they have installed these meters, and so --

Q Okay.

A -- it's against a cost they've already incurred --

Q Gotcha. Okay.

A -- both Brookwood last rate case, which we reserved the right to challenge that as part of the settlement, and then this case they have $4 million of rate base that they're trying to add.

Q Okay. Got it. Thank you. That was my misunderstanding.

Okay. So also in your testimony, and I can direct you to page and line if it will be helpful, but you state that the meter cost of 38.43 is the invoiced amount in 2015 when Aqua was still frequently using the standard -- the positive displacement meter. And then you show in your supplemental testimony that Aqua's position in its business case uses $47, and one of Aqua's witnesses provides a quote from a vendor for -- I believe it's $44, 44 and some change. Do you have in your possession or does the Public Staff have the most recent price information for a standard meter?

A Well --

Q And here let me ask one more question.

A Yeah. Sorry.

Q Is it possible that the meter cost just could have increased with time from the $38 that it was in 2015 to the 44 and change that it was quoted in 2017?

A So it is possible; however, this analysis both deals with meters that were installed in 2012 and 2013, and then also meters that were installed in 2017. So I think it's appropriate that that number that we utilized is 2015, which is actually skewed more towards the more recent project, and so you're basically using a cost that would be representative to apply across both those projects. And, also, you lose value by not purchasing in mass quantity, so I think that's what impacts that price. Certainly, everything goes up in price a little bit with inflation --

Q Uh-huh.

A -- but sometimes technologies do get a little bit cheaper to offset that.

Q Okay. We talked some already today about the overhead allocation factor of 93 percent. This has to do with the labor rate. So you recall what I'm referencing.

A Yes.

Q Can you help us understand, to the extent that you know, what the categories of expenses are that make up that -- that are included in the allocation factor? And is there -- I mean, is that somewhere in your testimony that we can reference?

A And I know we had a data request dealing with that. I'm just -- I don't recall if we put it as -- if I put it as an exhibit to my testimony.

Q Okay.

A If not, I would be happy to provide it. It explains those six categories, and there's also additional data requests that explain after the fact that that 80 percent allocation had only included two of those six categories, and then based on the Company's input, 93 percent is representative of all six categories of allocated cost.

Q Okay. We would like that information as a late-filed exhibit. Okay. In Aqua's testimony, specifically in Witness Thompson's testimony, he states that Aqua does not have the internal resources to complete a large scale meter replacement program. I know we've talked about this some today already, but just can you tell us one more time, do you agree with this statement?

A I do not agree with that statement. Based on my estimate, as we've given out in the Redirect Exhibit Number 2, it could take as little as four people to do this work to replace 60,000 meters in five years, which I believe the Company replaced 17,000 in 2017. That was a very aggressive plan, and there were some motivating factors to why they implemented so many meters. So four people, even if I don't -- and it's based on the responsiveness -- even if it I don't include truck and tools, you do not need a whole lot of tools to do what I did.

Now, there are more complex changeouts where you have to replace the meter box or change out the yoke or the resetter, which will take some more effort, but they have that equipment, they have that expertise, so to say they don't have the resources, I'd be very surprised. I mean, this is, even in the state, a company that generates millions of dollars of revenues and has millions of dollars of expenses.

Q Okay. I understand your explanation of the meter changeout to be it's one standard positive displacement meter switched for another that has certain capabilities.

A Uh-huh.

Q Does the water quality impact the service life of a meter? And I guess I'm really -- what I'm really interested in is, is water quality going to have a different impact on a smart meter than it would on the standard meter?

A So it's my understanding these are still positive displacement.

Q Okay.

A Water quality does impact the accuracy and functionality of those meters. There's newer technology that are electromagnetic that can measure the amount of water that passes by, and even those are impacted by water quality. So that's an unavoidable problem, to my understanding, in water metering.

Q Okay. So it's going to be there regardless of the type of meter that's being used?

A Right. And I don't know off the stand of is it less impactful for one versus the other, but it certainly has an impact.

Q Okay. Okay. We've talked a lot about Carolina Meadows and the excess capacity adjustment. I have one question. Mr. Becker contends that there should not -- that the entirety of the 1.7 million should be -- you know, should be allowed to be recovered, and that current

customers are benefited by the upgrades that were made to this facility, in other words, not required for the purpose of serving future customers. Do you agree with this position that the Company takes?

A So the whole point of an excess capacity is that there's -- it's overbuilt plant, and so that project didn't change the fact that there's overbuilt plant, and so that's why that excess capacity adjustment still applies to this renovation because it was incrementally more expensive due to the size and structure at that plant.

Q Okay. So I take your answer to be that you do not agree with the Company on this issue?

A Yes.

Q Okay. One last question. This is on water quality. You know, we talked -- we've talked at length today about the process that the Company and the Public Staff go through in determining how to address secondary water quality issues, and I think everybody in the room now has a much better understanding of that process. I'm still concerned about timing, because at least the way I'm understanding, the information that's provided in the three-year water quality plan, it could take up to seven years to install filtration even in the Group 1 systems

that are the highest priority systems. And if those systems are high priority, they've got serious problems and the customers, in my mind, can, you know, be suffering until the filtration is installed. Is there -- you know, we've talked about operational processes that can be implemented to address water quality, but is this something that the Public Staff and the Company are working on to ensure that while these systems are awaiting, you know, the filtration installation, that their water quality issues will be addressed in the interim?

A So that's a -- it's a challenging problem, because if the water quality is representative of, say, those 25 entry points that exceed 1 part combined of iron and manganese or exceeds .3 manganese, operational changes can maybe help some, but it's not going to necessarily make that service adequate, in my opinion. So you have to prioritize both the most impactful projects and also the worst water quality for those customers.

I want to be clear, the Public Staff, if they brought up 80 filter projects that passed our evaluation, we would approve 80 today, but that's not how this works. They send us proposals. We review them. We are not a

roadblock, we are not a speed bump, in my opinion. We try to review these as quick as possible because we recognize we are consumer advocates. Part of that is they get acceptable or adequate water service, and I don't think that that is adequate service when you're that high above the secondary limits and potentially above a health advisory.

So you've seen the Company, over the last four and a half years, five years, has had the WSIC mechanism and they've installed approximately 30 filters. That's only six a year. Is that a product of their capabilities and that process or is that on the Public Staff? In my opinion, it is not on the Public Staff of why there's that -- only that many filter projects.

And so we haven't dictated that it should be 10 to 15 a year. That was their proposal, and we had no input on that.

COMMISSIONER BROWN-BLAND: Commissioner Clodfelter?

FURTHER EXAMINATION BY COMMISSIONER CLODFELTER:

Q Mr. Junis, come back to looking back in my notes, there's questions that I think the Chairman probably did not cover with you. Tell me again how it is that you say the Company should have avoided paying $8.48

for capacity from Johnston County in 2018? What was it that they did not do that they should have done?

A So this is a history of things they didn't do year after year that led to this point of this mismatch in the CIAC collected and the cost to purchase that capacity. In my testimony I detailed this should have been an incremental process. As the money was collected, they should have been buying capacity, and the County asked that it be bought in blocks, at least blocks of 25,000 gallons. So if you went incrementally like that, you would have little to no disparity between what was paid by the developer and what was then paid by Aqua to the County for capacity.

Q Now, what the Company was collecting was $5.50 per gallon per day?

A One period of time, and then they, for whatever reason, we don't have a good explanation, they increased it to $6, while we have no documentation that the County rate was ever $6.

Q Well, we have -- in Cross Examination Exhibit 4 we have a quote from 2009 that if you want to buy capacity, treatment capacity, it's $4.83 per gallon per day, and then if you want to buy transmission capacity on top of that, it brings the total to $6.29. Isn't that

the source of the number?

A Well, that doesn't match up exactly to the number they're charging. So they only charged developers one time in 2006 5.50. Every time after that, they basically functionally charged $6 per gallon. And that letter came in 2009, so what was the basis for the change in what they were collecting? Why doesn't it match up with what the County was charging in any documentation?

Q It's actually more, because the County was only charging $4.83 per gallon for treatment capacity.

A Well, I think that's part of the problem here. That would be a reinterpretation or change in the interpretation of that contract, in my belief. Why would you charge 5.50, what you were told was the price in the contracts in 1999 and 2002, then bump it up to $6, yet now they argue that the cost was only -- it's only now 5.34, yet they paid 8.48. So I'm confused by all the mismatches from the Company, and I would not expect that the utility, Johnston County, decrease their capacity fee from 5.50 to 4.83, then to 5.34. That logically does not make any sense.

Q Well, that's your assessment of logic, but you don't know the economics of Johnston County, do you?

A Well, I know --

Q You don't know the economics of Johnston County and how they cost out their capacity charge, do you?

A Well, in 2006 they completed a significant wastewater treatment expansion, so, again, if the contract says that that would increase with the projects we do or adjustments to the wastewater treatment plant, why would their rate go down effective in 2009?

Q Let me ask you about the contract, which is really, I think, the issue here. Isn't it a fact that the only capacity being purchased from Johnston County that's addressed in this contract is treatment capacity, not transmission capacity?

A I believe it -- now, remember, there are six contracts.

Q Well, I'm talking about the one that was introduced into evidence as Cross Examination Exhibit 3.

A And that's the bulk wastewater treatment. But the language is slightly different in these different documents, so I think that creates a problem. And I don't understand why there wouldn't be a capacity fee that includes both the capital cost for treatment and transmission in the original intent and a commodity charge with that same intent. So all right, to kind of -- Aqua had gone -- my understanding, they presented this

to the County to basically get the treatment portion of the capacity fee turned into an additional commodity charge on the charges in 2018. So functionally, they were going to do a straight pass-through of that cost to customers' rates, their commodity rates, so now that usage charge would include both Johnston County's version of treatment and transmission and then functionally Aqua's capital cost for purchasing that transmission. So now you're doubling up on the transmission cost in the commodity charge. Did that make sense? I'm happy to clarify.

Q It makes sense. I'm really looking, focused really just on the original 2002 contract, what was being bought, what was being sold, and what was to be charged and following that through.

A It's the Public Staff's opinion that wastewater capacity would include both treatment and transmission in the 5.50 and then going forward.

Q So you read the language of the contract when it says wastewater treatment and WWTP capacity as including transmission capacity?

A Yeah, because wastewater treatment is a system. You have the collection system and the treatment system.

Q I understand that. And my question to you,

then, is on -- look at Exhibit 3 --

A Yes, sir. I have it in front of me.

Q And page 10, the much talked about page 10, and paragraph 11, the much talked about paragraph 11, and I think Mr. Grantmyre asked you about this, River Dell and Heater agree that Heater shall collect from the developer of each tract a WWTP capacity fee. That stands for wastewater treatment plant capacity fee, right?

A Yes, sir.

Q And Johnston County charges a capacity fee separately for treatment and separately for transmission. Isn't that what we've learned?

A Well, what they do is they have a total capacity fee that incorporates two portions that weren't necessarily outlined in this contract.

Q That's exactly the point, isn't it, that the transmission capacity was not addressed in this contract. So what Heater agreed to charge or what Aqua agreed to charge and what Aqua agreed to collect from the developer on account of purchased capacity from Johnston County was just the treatment portion, isn't it?

A So then how do -- I'm just trying to understand.

Q I am, too.

A So functionally, you would be saying that for 19 years they were overcharging developers. And this also doesn't take into consideration that this is a per gallon charge, so do they really have access to resell this capacity, as Mr. Becker alludes to, or do these developers have control to bill double the amount on houses for those early purchases? And then how do we then justify them paying 8.48 today? I mean, that's a big mismatch, and somehow the customers are responsible for that?

Q Because they're now purchasing capacity for transmission upgrades that they were not buying in 2002.

A I will tell you this very clearly. In our conversations with Mr. Broome, it is his understanding that the wastewater capacity fee in these contracts was intended to be the total wastewater capacity fee, that it was not the intention that there was a separate piece missing from this representation in this contract. And he was a party, and he would have been the decision maker setting that 5.50. And so I'll leave that to the Commission's --

Q At some point, though, apparently at least as early as 2009, the County had changed its policy and practice and had started charging a component fee,

correct?

A I think --

Q You would agree with that?

A I think --

Q It's in the documents.

A Yes, sir. So what they did, I think they broke apart that total capacity fee for transparency sake and to really quantify what's impacting the changes to their capacity fee instead of just lumping it all together, as I think is done in these original contracts.

Q But the gist of it, then, is that I have to take it out of his head and put words into the paper that aren't on the paper. The words "transmission" have to be written into the paper because they were in his head.

A I think you have to apply, in my opinion, logic and the intent of the parties that entered into this contract and the history of how it was interpreted. The Company clearly was collecting 5.50, and then more than that at $6 consistently moving forward, so what was the basis for that capacity fee that they were charging to developers, and why would it not match up to this interpretation that the capacity is only the treatment portion?

Q Well, that's a question we're going to talk

about with the rebuttal witnesses, why they were charging more than 5.50.

COMMISSIONER CLODFELTER: Thank you. That's all.

EXAMINATION BY COMMISSIONER BROWN-BLAND:

Q Mr. Junis, following up on the question from Commissioner Mitchell, she asked -- it may be obvious, but just for clarification, she asked about the impact of the water quality on the meters. What is the usual impact? Does that go in one direction or another for standard AMR and AMI?

A So that's typically going to negatively impact the functionality of a meter.

Q Does it result in --

A Typically, it's going to --

Q -- less use, more use?

A I'm sorry. It's going to result in a slowing of that meter, and so you're going to under-quantify usage.

Q And that's with each of the three types of meter?

A My understanding, yes.

Q I think I read in your testimony somewhere that ultimately you conclude the Company's service is

adequate?

A I don't believe I specifically say that.

Q Okay. Do you? Is it adequate? Do you find it to be adequate?

A I don't feel comfortable making a generalization for their service, because clearly it's my opinion, and I think I answered that to Commissioner Mitchell, there are areas that certainly that the service is inadequate. And I believe Mr. Becker was questioned that during his direct, and I was surprised when he said that he felt they were providing adequate service based on those water quality concerns.

Q Could it be adequate in some systems, in your opinion? Is it your opinion it's adequate in some systems and not in others?

A Yes, Madam Chair.

Q Do you have an opinion with the Bayleaf system?

A I think that would be inadequate service based on the experiences of those customers.

Q There were what the Commission calls in its docket system the consumer statements of position. And you've reviewed all of them?

A Yes, ma'am.

Q Do you review them with the -- or follow up

with the Company, to the extent that the letters submitted contain complaints?

A I'm sorry. What do you mean by "with the Company"?

Q In other words, is there follow up on the complaints that are in the statements of position?

A So I file a letter, and sometimes I will ask questions for clarification, but I do not specifically follow up with the Company on each individual one.

Q Do you turn them over to the Consumer Section of the Public Staff?

A No, ma'am.

Q Do you know if the Company follows up on those complaints that are in those position statements?

A I'm not aware that they follow up with those.

Q Why wouldn't the Public Staff or the Company follow up on what is clearly a complaint? What's the difference between that and the customer picking up the phone and calling the Company and saying I have a problem?

A I guess I -- my personal interpretation is that they are trying to voice their concerns as part of this rate case, and just from a time sake, I can't respond and follow up to all of those and do my functions with this

rate case. But I think you make a good point, and I'm happy to go back and follow up with those customers.

Q And I thought what you said might be a part of the reason, but I think we should be mindful that the letters actually contain complaints, in addition to what they feel about the rate increase.

A I think that's a very good point.

Q So yesterday with Dr. Crockett and a few minutes ago there was references to the Group 1 sites, and we've established for the record that the Group 1 sites mean there were public health concerns. Do you have an opinion, as what I asked Dr. Crockett yesterday, is a seven-year wait reasonable for the Group 1 sites to get relief through these filtration systems?

A It's a hard balance to find because if you're overly aggressive in this market, you may drive up the cost considerably because they have to contract for modifications of the well house, they have to contract with the vendor that manufactures these filter systems, and I don't know if there's the capability to really ramp up and say cut that timeline in half. It's certainly something that would be information available to the Company, and I would be interested if there is a quantifiable increase in the cost if they would expedite

this process.

Q Well, a minute ago you said the Public Staff didn't want to serve as a roadblock, and did you agree or have an opinion with respect to that portion of Dr. Crockett's testimony where I said it indicated to me that he was already determining that the Group 1 sites can only be solved by a greensand filter?

A So, remember, the Company does mention the possibility of taking some of those wells offline, perhaps alternative sources, so there's still due diligence to do. Even though the water quality may be very clear, you have to look at the operations of each individual system. There's a lot more confirmation and due diligence that needs to be done, and I think the Public Staff and Aqua agree on that.

Q We have a late-filed exhibit we would like to request. Could you file as a late-filed exhibit a comparison of the current average monthly residential bill to the average monthly residential bill based upon the Public Staff recommended rates as represented by its latest position filed on September 18th for each of Aqua's five rate divisions and compare that to Aqua's position presented in Cooper's Revised Supplemental Exhibit that was filed with the Stipulation?

A Yeah. No. I think that can be done. It's functionally my rate design. There will be some assumptions necessary in terms of how that -- those rates are structured because that may impact the average bill, but I'm certainly willing to give that a Boy Scout's effort.

Q Okay. With regard to the consumption adjustment mechanism and the most recent water usage numbers that we have, would you agree that it appears that the average monthly water use for Aqua Water has stabilized at close to 5,000 gallons per month?

A Yes, ma'am, and I think that was also the findings of the Environmental Finance Center in their report.

Q Does that lead the Public Staff to believe that the average monthly consumption will continue to decrease and will fall below the $5,000 per month?

A I think you're going to continue to kind of plateau here around 5,000 gallons, like it was determined both in my analysis and in the EFC's analysis.

Q So you think we're kind of going to stay around the 5,000 level?

A Yeah. I mean, there is always discretionary usage that impacts that 5,000 average. There are systems

where people use, for lack of better terms, a ton of water, and there are other systems where people use very little, but we are certainly seeing more of a trend towards a plateauing or leveling out of usage.

Q So you do not view -- the Public Staff does not view it as continuing to decline?

A Not significantly, in my opinion.

Q Regarding Junis Cross Examination Exhibit Number 2, that's Aqua Junis Cross Examination Exhibit 2, it's the one from Durham --

A Yes, ma'am, I have it.

Q -- the single page --

A Yeah.

Q -- and it shows there a unit cost of $227.37, and the description includes clean meter box, remove existing meter. Is the cost to clean the box and remove the existing meter included in your Aqua unit cost of $206.30 for Aqua Water?

A It certainly includes removing the existing meter, because I believe that's part of their installation cost. I don't know if Aqua specified that they clean the meter box.

Q So it includes removal, but you're not sure on cleaning?

A Correct.

Q And then specifically, is that cost in the allocable cost of $17.76 per unit?

A I don't think that's the allocated cost. I think it's part of the installation cost.

Q What types of cost -- what types of cost are in that $17 number?

A And I would be happy to -- I think I promised Commissioner Mitchell to provide that late-filed exhibit that includes those six components of allocated cost.

Q And those -- when you say six, that reminds me, those six agreements with the developers that have been discussed, are they already in the record?

A I believe we included a number of them as my Exhibits 12 and 13, but I will verify if we included all six.

Q If you have not, could you provide those as a late-filed exhibit?

A Yes, ma'am.

Q And then, Mr. Junis, on page 16 of your direct testimony there's discussion there about a Mr. Rick Pfeiffer who is in Wakefield Estates. At the bottom of page, line 24, and carrying over, I guess, to the next page there's a discussion there saying that the Aqua

technician found the manganese levels were well beyond acceptable limits, which in this case is well beyond that advisory limit that we discussed so much yesterday with Dr. Crockett.

A So the iron level is 2 parts, and then the manganese level is actually just below that health advisory exhibit.

Q It's just below, right.

A Yeah. The health advisory is .3.

Q I see that.

A Yeah.

Q Okay. Thank you for that. But my question is, line 5 and 6 it says you'll continue to follow up. Has there been any follow up?

A Not at this time. I mean, to speak candidly, I've been swamped by this case.

COMMISSIONER BROWN-BLAND: All right. If I had an award to give, I'd give it to you and Mr. Becker.

THE WITNESS: Well, thank you.

MR. DWIGHT ALLEN: What about Mr. Grantmyre and I?

COMMISSIONER BROWN-BLAND: No. That's --

MR. GRANTMYRE: We're going to get jobs as meter readers so we can get some exercise.

MR. DWIGHT ALLEN: We can't bend down that far, Bill.

COMMISSIONER BROWN-BLAND: That's just superfluous testimony. Let me read. I'm like Commissioner Patterson. Let me read my writing here.

Q On page 23 of your testimony, right there at lines 3 and 4 you talk about discussions with the DEQ staff. Is there documentation on that conversation with the DEQ staff that you --

A On occasion there would be meeting notes. On some occasions there would be emails. I'm trying to think. Actually, during the rate case I don't know how many actual emails there are, but there were phone conversations, and all I would have is my notes that I hand took during those conversations.

Q So just your notes that you created?

A And I'm happy to check, and I think that's already been requested by the Commission, any official correspondences between the parties and DEQ, so we're definitely working on trying to compile those.

Q All right. Thank you. And on line 16, page 23, it says Aqua is taking an incremental approach, and I guess really that just goes back to what I was asking. Is an incremental approach, particularly where there were

the Group 1 sites, is that appropriate, but you just mentioned there are some other steps, such as removing wells, that could still address the problem?

A Yeah. And I would say the Public Staff doesn't require each of these steps actually be implemented for every system. There is some acceptance that if the water quality is so bad, you can skip steps, and we would be perfectly okay with that, and I think we've expressed that. There's no point in installing a cartridge filter, which the installation of that could cost, you know, a thousand dollars depending on how large it is, and to change their -- the plumbing in their meter house -- or not meter house -- well house. And, also, they may rearrange their treatment, chemical treatment, so they've tried, you know, chlorine first or SeaQuest first, and then the filter, rearranging these, or cartridges in series of different microns. If the water quality is so bad and it's expected, based on a professional engineer, that that's not going to be successful, we don't require that. That would be wasted money in our eyes.

Q And on page 24, lines 3 through 5, there's a discussion about the flushing, and it was limited flushing that didn't meet -- didn't closely follow the recommended schedule for flushing, and it said that

resulted in exacerbated discolored water issues. Can you explain that and why that would be?

A So those are two very separate points being made. The first point, which kind of starts actually on the previous page, about the SeaQuest manufacturer's recommended schedule, so that's when you first initiate treatment with SeaQuest. The manufacturer recommended that they flush 30, 60, 90, and then one year, the idea being that that product is known to break down the sediment buildup in the mains. And so if you don't flush, you're breaking off sediment and putting it into the water supply to customers.

And then separately, the lack of consistent flushing between 2006/'07 through 2012 that would contribute to that buildup in the mains, which then could be exacerbated by the SeaQuest product, because if you have more buildup and sediment in the mains and then this product is breaking off more of it, you would get even more discolored water.

Q And if you know, that kind of recommendation of 30, 60, 90 days, I mean, are there significant ramifications if you do it at 35, 65, and 100 days?

A I don't think so. This is a -- I believe the manufacturer referred to it as aggressive flushing, which

I think is appropriate given Aqua's water quality, so they would expect significant buildup in those mains, especially because of this lack of flushing in the historic period.

Q And finally, just with regard to the water quality secondary water issues, is this Commission looking at a choice between good quality and higher cost or a lesser quality and still high or higher cost? Is that the choice we're looking at?

A I think in this case that decision doesn't have to be made. There is certainly going to be a cost for better water quality. I think all the parties can agree to that. It's going to take significant investment, and it depends on the scale and the speed that that's addressed in terms of the rate impact, incremental rate impact, and how quickly they're potentially going to come in for rate cases.

And I would add, your question about Dr. Crockett and the Group 1s, so the NODs that were supplied by or issued by DEQ, they had three very clear groups that don't necessarily match up with the groups for the secondary water quality plan. So in the Order they sent eight NODs for water systems with wells with a combined greater than 1 iron and manganese without sequestration

or filtration. So they said these need to be addressed the quickest, that was where their main concern was, these eight greater than 1 combined and you have no attempted chemical treatment or filtration.

Then about two weeks later they issued 13 NODs for systems that were above the secondary limits without any form of treatment. And then they sent 47 after that which had been previously approved for sequestration, so that basically means that original inorganic sample was above the secondary limits, and so they required some attempt by the Utility to address that problem. Typically, the Utility is going to try sequestration first. And so these 47 were approved for sequestration, except the combined iron and manganese exceeded one part.

So their concern there was if it's that high, sequestration cannot be effective, and so you really need to evaluate if a filter is appropriate. And that's not a change in necessarily policy, in my opinion. That's in their permits. So there is language in there that we will allow you to try chemical treatment, but now DEQ is holding them accountable and following up on that.

And I think we can all agree that state government is limited. We have to prioritize things. Public Staff is not all knowing. We can't review every

single line item of every single rate case and know a hundred percent that it's accurate. And DEQ has the same issue, that they have a hard time, and now they're following up on their permits that they've issued. And so the actual policy change is that they've changed the wording in their permit that -- and we'll find -- actually, I have it -- an email from Bob Midgette dating back to 2017 --

Q Who is Bob Midgette?

A Okay. Sorry. He is the Operations Branch Head of Public Water Supply Section, so he makes a lot of decisions over there. He was in the August 29th meeting with the Public Staff and Aqua.

And basically, what that change in language suggests, that if the combined concentration of iron and manganese exceeds .5, they want the engineer submitting those plans and specs to justify or give their rationale of why they would expect chemical treatment to be successful. So it's putting an onus on a professional engineer. He has to put his license kind of on the line and his expertise on the line that this is going to be effective, so then it wasn't a rubber stamp of you can try sequestration and then they're going to have a hard time following up on that.

So that's the only true policy change -- or official policy change that's occurred at DEQ. And so your question about Dr. Crockett prompted my thoughts on that.

Q All right.

COMMISSIONER BROWN-BLAND: Attorney General counsel, do you have questions on Commission questions?

MS. FORCE: I have one quick question.

COMMISSIONER BROWN-BLAND: Ms. Force.

EXAMINATION BY MS. FORCE:

Q Mr. Junis, you had some questions from Commissioner Finley on the contributions in -- yeah, CIAC. I'll say it the southern way.

A Yes, ma'am.

Q Am I understanding it correctly, that where the Utility collects CIAC, that that's credited as against rate base for the assets that would --

COMMISSIONER BROWN-BLAND: Keep your mic there.

MS. FORCE: Sorry.

Q Did you hear me?

A Yes, ma'am.

Q -- that's a credit against rate base?

A Yeah. So it would offset their investment into rate base.

Q So in terms of the effect on rates, then, where there is a provision for collection of this amount that's accounted for as CIAC, then that has the effect of reducing rate base and reducing rates for customers?

A Yes, ma'am.

Q And where the CIAC that can be collected by the Utility is not collected, that tends to keep the rate base a little bit higher? Is that the effect that it has?

A Yes, ma'am.

Q So if in one rate case the amount during that time period CIAC might have been collected, but was not, then the rate base would tend to -- under your argument, if they had failed to collect the CIAC, there would be an argument that that rate base would be lower and accordingly -- I said that wrong. If it didn't show up as CIAC because it wasn't collected by the Utility at the time of one rate case, then under your argument, rates would -- should have been a little bit lower in that rate case than they reflected --

A Yes.

Q -- because the CIAC was undercollected?

A Right. So functionally, rates were higher than they should have been because you didn't have that CIAC

to offset rate base.

Q So my question for you is to the extent that there were prior periods when CIAC was not collected that ought to have been under your position, you're not asking the Commission to try to collect the overstatement of rates in prior rate cases, are you?

A No, ma'am. I'm not seeking a refund because those rates were higher than they should have been.

Q So to the extent there is CIAC that was undercollected in a period prior to the time of this rate case, it would show up in rate base this time, but it wouldn't have affect--- you're not going back for rates prior to the new effective date of rates?

A Do you mind restating that?

Q Yeah. Sorry. So the rate base that was used under your argument may have been higher in the last case because this wasn't detected, but you're not asking to go back and reestablish those rates from a prior period, are you?

A No. So it's -- upon advice from counsel, it's my understanding that no previous rate case is legally binding for the next rate case. And so we can look back at that information, and so we are seeking now to impute the CIAC for the benefit of rates going forward.

Q And that imputation is because to the extent there was some CIAC that should have been recovered and wasn't, it didn't show up in rates before, but going forward it would affect the total property that's still in the Company's rate base?

A Yes, ma'am.

Q Okay.

MS. FORCE: Thanks. I don't have any other questions.

COMMISSIONER BROWN-BLAND: Aqua, do you have questions on Commission's questions?

MR. DWIGHT ALLEN: Yes. Thank you. And I'll try to be very quick.

EXAMINATION BY MR. DWIGHT ALLEN:

Q Commissioner Finley asked you some questions about secondary developer contracts. Do you recall those?

A Yes, sir.

Q And he was talking specifically about the $315,000 that was not collected.

A Yes, sir.

Q Are you aware that back when Heater was operating the Company, that there was a contract filed with the Commission involving River Dell School, but also

some residential properties that included those secondary developer contracts as part of that filing?

A I'm not specifically aware of that.

Q So you didn't go back and look to see whether or not contracts related to the $315,000 adjustment that you made had actually been filed with the Commission?

A So I didn't go back and review, I mean, what was it, 50 line items or more of CIAC and look at every single contract associated to each piece of that puzzle.

Q Okay. Do you know whether or not, when that contract involving River Dell School was filed, that it was the policy of the Commission to put the cost for the CIAC into a tariff rather than into the contract?

A I'm not aware of that.

Q Do you know whether Heater ever entered or asked that those costs be included in the tariff?

A I would ask for clarification of the date of that filing, and are we talking about --

Q Pre-2005.

A Pre-2005?

Q Before your time, I think you said.

A Yes, sir. And does that tie to a line item on either Exhibit 14 or 16?

Q It retires -- it relates to the $315,000.

A Right, but all those -- all the systems that contribute to that $315,000 are listed in Exhibit 16, so are there CIAC payments for the capacity that is tied to that contract that you're referring to?

Q Yes.

A Do you mind identifying them for my context?

Q Well, I don't know if I could identify them by section, but do you know whether either the Public Staff or Heater put the rates that were filed in that contract prior to 2005 in a tariff?

A I don't believe so, but I can't say for a fact.

Q Okay. Commissioner Clodfelter asked you some questions regarding AMR meters first, and one of those questions related to the type meter that Aqua was installing, and I think he referred to a 40W, a 60W. Are you aware that the meter that Aqua is using exclusively is the 100W meter?

A Yes, sir, and I believe I was referring to the issues that Envirolink was dealing with and other utilities in the past.

Q But the 100W is the latest meter. It's got a longer life and an extended battery life, hasn't it?

A It's one of the latest. I don't know if it's the newest model. Just like cars, you know, the 2019s

are already out.

Q There may be a 2019 already out, huh?

A Right.

Q Okay. Commissioner Clodfelter also asked you some questions about the contract interpretation and the $4.83 and the $6.29, and you made a statement there have been some changes in the interpretation of the contract. Do you recall using that word?

A Yes, sir.

Q Now, you didn't interpret these contracts until you looked at them after you found out about them in 2018, did you?

A Right. So I was implying changes in interpretation by Aqua.

Q Well, if you look at the Exhibit Number 3, Cross Examination Exhibit Number 3, that contract that we unfortunately keep referring to, and I think it's on page 4, again, paragraph 7, it contemplates in there prior to the 2009 letter that, in fact, the County would have a monthly rate for transmission and treatment service, doesn't it?

A A commodity rate.

Q For transmission and treatment service.

A That's what it --

Q That's what the words say, isn't it?
A It's a commodity charge.
Q It says invoices will be based on monthly wastewater meter readings. The language says what it says, doesn't it?
A Right. So that would be a usage or commodity rate because it's based on the amount of gallons read on the meter.
Q And then the five hundred and fifty -- $5.50 charge was something that was being charged separately from --
A It was a capacity fee.
Q It was the capacity fee. And then Commissioner Clodfelter asked you about the 2009 letter that quoted a capacity fee for the wastewater treatment plant and said couldn't that be related just to the capacity fee, and the $6.29 would be related to a transmission charge or commodity fee. It could be read that way, could it not?
A The 6.29 is not a commodity fee. It says per gallon per day, which would be a capacity fee.
Q But the $6.29 is derived by making an addition to the $4.83, isn't it?
A So, yeah, it states the unit capital cost of wastewater treatment facilities expansion is $4.83 per

gallon per day, and so does that mean that they aren't anymore recovering in capacity charges the previous plant, and so that 4.83 is only for the expansion of that plant that occurred in 2006?

Q Well, it may mean --

MR. GRANTMYRE: Objection. He's still answering the question.

MR. DWIGHT ALLEN: No. He was asking a question. I don't think he's able to do that.

A No. I just said this is what it says.

Q Okay. But the $4.83 is a number, and you get to the $6.29 by adding something to it that's called transmission; isn't that right?

A It says the unit capital cost of transmission facilities for an upgraded wastewater -- I'm not sure what WWPS -- that's probably wastewater pump station -- and the new force mains between Aqua's wastewater treatment plant and the County interceptor on the Neuse River in Smithfield. And so I would offer to you that the County upsized that interceptor, knowing that Aqua was going to or likely to buy 500,000 gallons of capacity.

Q But whether they did or whether they didn't, they still quoted the number $4.83, didn't they?

A And the total capacity fee that they referred to is 6.29 and 8.48.

Q Including an adder to the $4.83.

A It is a combination of the two amounts.

Q A combination of the two amounts. And if you look at the 2018 letter, which I think was Junis Aqua Cross Examination Exhibit Number 4, we likewise have a charge there of $5.34 which is stated as wastewater treatment capacity, and below that there's a series of cost which they list as transmission which total $3.14.

A And so it states the total capacity fee is $8.48.

Q Well, isn't it reasonable or isn't it possible that what this was doing is rather than charging the transmission fees on a monthly basis, as the County proposed in the original contract, that they had changed their policy or was at least willing to negotiate a change in policy that those transmission fees be paid up front just like the capacity fee?

A So I think you just hit the nail on the head, that they were willing to consider negotiating, and I believe upon advice from their counsel that they decided against that, and that no matter what, the current commodity charge, and I believe Ms. Farmer has sent this

to either Ruffin or the Company, still includes two components for the usage or commodity charge --

Q Commodity transmission and the capacity, yeah.

A -- and so if this transmission capacity portion of this capacity fee is shifted to the commodity charge, you're basically doubling up in the commodity charge for capital associated transmission and operational charges on transmission.

MS. SANFORD: Excuse me. Madam Chairman, I want to interrupt this just for a minute with a scheduling question, as we're trying to figure out which way people go. First of all, I guess our question is whether there's a possibility of staying after 6:00, if we have a possibility to get Mr. Kopas off, which would depend on the length of cross. And secondly, do we know when we're coming back? That impacts our --

COMMISSIONER BROWN-BLAND: We're coming back at 9:00 on Friday.

MS. SANFORD: On Friday. Okay. May I ask if we -- how long you think it'll take for Mr. Kopas, and I know you can't know perfectly.

MR. GRANTMYRE: Probably a half hour, possibly less.

MS. SANFORD: Okay.

COMMISSIONER BROWN-BLAND: Excuse me, Mr. Grantmyre. I didn't hear you. What did you say?

MR. GRANTMYRE: I'm sorry. I'm going to learn. I'm trying. Probably a half hour, possibly less. They're not going to be longwinded answers, you know --

COMMISSIONER BROWN-BLAND: The more important question is how much do you have on Commission's questions for Mr. Junis?

MR. GRANTMYRE: Oh, not very much, about three or four questions.

MR. DWIGHT ALLEN: Well, you may want to give Ms. Sanford an award because she has told me that I should just quit, so I have no further questions on the Commission's questions.

MR. GRANTMYRE: We'll second that.

COMMISSIONER BROWN-BLAND: That might merit an award.

MS. SANFORD: And I'll toss into the mix that Mr. Kopas has an 8:00 flight. I realize that's our problem and not anybody else's, but if we can get him out of here, we'd like to.

COMMISSIONER BROWN-BLAND: Let me go off the record for just a second.

(Off the record from 5:56 p.m. to 5:58 p.m.)

COMMISSIONER BROWN-BLAND: Back on the record. So if we can get Mr. Kopas off the stand by 6:45, earlier if possible, but we don't want to go a minute past 6:45.

MS. SANFORD: Thank you, is what we're saying.

COMMISSIONER BROWN-BLAND: All right. Mr. Grantmyre.

MS. CULPEPPER: We also need about five minutes between the two witnesses because some of our stuff is upstairs for Mr. Kopas. So we don't -- I mean, we weren't thinking we were doing this right now, so...

EXAMINATION BY MR. GRANTMYRE:

Q Mr. Junis, you were asked questions by Commissioner Brown-Bland regarding significant investment and increased cost; isn't that correct?

A Yes, sir.

Q And in your dealings with the Company and Aqua -- and DENR or Public Water Supply, hasn't it appeared that in numerous conversations with the Company that it would help the process tremendously if Aqua would improve its sampling techniques so there would not be so many bad samples that skew the data?

A There was a problem with a number of the NODs, that there was basically a false elevated level that then required the issuance of an NOD, but then the problem was

resolved with proper sampling.

Q And it was the Public Staff that checked the records and found these outlier samples that put it into the Category 1 as far as DENR was concerned because of bad sampling; is that correct?

A Right. We reviewed all the NODs and looked back at the inorganic data and noticed that some were inconsistent with the trend and presented that to both DEQ and the Company.

Q And at our meeting two weeks ago with DENR, Bob Midgette, the Public Water Supply's second in command, made the statement that improved filter operations by Aqua would be a help.

A I believe so.

Q And you've been in the room before when DENR told -- made the statement that Aqua should be flushing each system at least once a year?

A Yes, sir.

MR. GRANTMYRE: That's all I have.

COMMISSIONER BROWN-BLAND: All right.

MR. GRANTMYRE: That concludes our case, and we would move that his prefiled direct testimony and supplemental testimony and the attached exhibits and the Junis Redirect exhibits all be entered into evidence.

MR. DWIGHT ALLEN: And Madam Chair, we would likewise move Aqua Junis Cross Examination Exhibits 1 through 6 into evidence.

COMMISSIONER BROWN-BLAND: Both motions will be allowed.

MR. DWIGHT ALLEN: And we would also ask, there was some discussion about Commission Docket W-218, Sub 683 (sic), related to the Upchurch situation, goes back to 2015, has a lot of history in there about what happened, we'd like the Commission to take judicial notice of that docket, if they would.

THE WITNESS: The Docket is 363, and it might be A also.

MR. DWIGHT ALLEN: 363. Did I misspeak? I'm sorry. It's 363.

COMMISSIONER BROWN-BLAND: You said six. I didn't think we got up to six yet.

MR. DWIGHT ALLEN: What did I say?

MS. SANFORD: 683.

MR. DWIGHT ALLEN: It's a long day. I'm sorry.

COMMISSIONER BROWN-BLAND: The Commission will take judicial notice of the docket or the order?

MR. DWIGHT ALLEN: Of the docket --

COMMISSIONER BROWN-BLAND: Of the docket.

MR. DWIGHT ALLEN: -- W-218, 363A. Thank you, Mr. Junis.

THE WITNESS: You're welcome.

COMMISSIONER BROWN-BLAND: And both motions are allowed. The testimony will be received into evidence, as well as the exhibits that were prefiled and the redirect exhibits and the cross exhibits, which go -- each go up to 6, so you agreed on something.

(Whereupon, the prefiled direct direct testimony of Charles Junis was copied into the record as if given orally from the stand.)

(Whereupon, Public Staff Junis Exhibits 1-25 were identified as premarked and admitted into evidence.)

99

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. W-218, SUB 497

In the Matter of Application of Aqua North Carolina, Inc., 202 MacKenan Court, Cary, North Carolina, 27511, for Authority to Adjust and Increase Rates for Water and Sewer Utility Service in All Service Areas in North Carolina	)	TESTIMONY OF CHARLES JUNIS PUBLIC STAFF – NORTH CAROLINA UTILITIES COMMISSION

AQUA NORTH CAROLINA, INC.
DOCKET NO. W-218, SUB 497

TESTIMONY OF CHARLES JUNIS
ON BEHALF OF THE PUBLIC STAFF –
NORTH CAROLINA UTILITIES COMMISSION

AUGUST 21, 2018

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND PRESENT POSITION.

A. My name is Charles Junis. My business address is 430 North Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am an engineer with the Water, Sewer, and Telephone Division of the Public Staff – North Carolina Utilities Commission (Public Staff).

Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.

A. My qualifications and duties are included in Appendix A.

Q. WHAT IS THE NATURE OF THE APPLICATION IN THIS RATE CASE?

A. Aqua North Carolina, Inc. (Aqua or Company), filed an application with the Commission on March 7, 2018, in Docket No. W-218, Sub 497, seeking authority to increase rates for water and sewer utility service in all of its service areas in North Carolina.

Q. BRIEFLY EXPLAIN THE SCOPE OF YOUR INVESTIGATION REGARDING THIS RATE INCREASE APPLICATION.

A. My areas of investigation in this proceeding have been the review of company records, customer complaints, assisting the Public Staff Accounting Division in reviewing expenses and plant in service, and review of Department of Environmental Quality (DEQ) records.

I have analyzed the Company billing data for the test year ended September 2017 and also updated data through June 30, 2018, which was provided at my request. I have performed a billing analysis to determine the level of revenues produced at present and proposed rates utilizing the data updated through June 30, 2018. I have developed a recommended rate design to recover the revenue requirement set forth in the pre-filed testimony of Public Staff Witness Windley Henry, Accounting Manager, Water/Communications Section. The rate design includes specific usage rates for water systems that purchase and resell bulk water from a third party provider.

The following table of contents serves as a convenient reference to the areas of my investigation presented in detail with my findings and accompanying recommendations:

Table 1

PUBLIC HEARINGS

Q. PLEASE SUMMARIZE THE PUBLIC HEARINGS CONDUCTED IN THIS CASE.

A. The Commission conducted four hearings to record testimony from public witnesses.

The first of these hearings took place on May 7, 2018, at the Davie County Courthouse in Mocksville. No public witnesses testified at this hearing.

The second public witness hearing took place on May 9, 2018, at the Gaston County Courthouse in Gastonia. Two public witnesses provided testimony at this hearing. One of these witnesses, Mr.

Steve Gordon, is a resident of the Southport Landing subdivision in Belmont, North Carolina. (T 2, p 12) He testified about the efforts to switch his water supply and that of his neighbors from Aqua's wells to the City of Belmont, and his concerns about the cost of water from the City of Belmont. (T 2, pp 13-17) The other public witness who testified at the hearing in Gastonia was Ms. Ashley Norris, who resides in Yorkwood subdivision, outside the Gastonia city limits (T 2, p 22). Witness Norris testified that she had experienced discolored water on multiple occasions over a two-year period, including on the day before the hearing when she was bathing her children. (T 2, pp 22-23, 27) She indicated that her two-year-old dishwasher had to be replaced because the jets were clogged with manganese deposits. (T 2, p 22) Witness Norris testified that her husband sent photographs of discolored water at their house to Aqua, but that they "were just pretty much given the runaround." (T 2, p 26) Witness Norris further testified that she was aware of others in her neighborhood who were experiencing water quality issues, including her next door neighbor, who Witness Norris testified had to replace clothing which had become discolored in the washing machine. (T 2, p 23) Witness Norris summed up her testimony by stating, "If we're going to have a . . . rate increase then I want to know that my water is going to be clean enough to give my children." (*Id.*)

The third public witness hearing took place on June 25, 2018, in the Commission Hearing Room in the Dobbs Building in Raleigh. Twenty witnesses testified, including Representative Joseph R. John, Sr. Representative John represents House District 40, which includes much of northwest Wake County where many of the neighborhoods in Aqua's Bayleaf system are located. (T 3, p 22) Representative John is not an Aqua customer, but testified that he has met with constituents who are Aqua customers about issues with the service provided by the Company from approximately January of 2017, when he took office. (*Id.*) Representative John noted that the concerns of the Aqua customers in the Raleigh area were the same as those expressed by Witness Norris at the Gastonia public witness hearing. (T 3, p 24) Namely, the customers wanted the clean water they believed they had paid for. (T 3, p 25)

Ms. Becky Daniel, is a resident of the Coachman's Trail subdivision in Aqua's Bayleaf system. (T 3, p 28) Approximately eight customers at the hearing ceded their allotted testimony time to Witness Daniel, and her testimony is representative of the testimony of many of the other witnesses at the hearing. (T 3, p 27) Witness Daniel testified about water quality issues and customer service issues she has experienced as a customer of Aqua. With respect to water quality issues, Witness Daniel testified that she experienced issues with discolored water throughout the twelve years she has

lived in Coachman's Trail, but that the issues began occurring more frequently in 2017. (T 3, p 29) Witness Daniel testified that, between June 20, 2017, and November 6, 2017[1], her family was impacted by discolored water on eight occasions, with seven of the occurrences taking place at her house, and one taking place at her child's school. (*Id.*) **Daniel Public Hearing Exhibit 1** includes a log of the occasions when Witness Daniel's family experienced discolored water, and the action taken in response. Witness Daniel testified that, in addition to impacting their drinking water, the occurrences of discolored water impacted her family's ability to perform essential activities such as cooking, bathing, and laundry. (*Id.*) With respect to customer service issues, Witness Daniel testified about an incident in which it took more than three weeks for the Company to repair a leak at her water meter. (T 3, p 30) Witness Daniel also testified about problems with Aqua's telephone customer service, including her concern that automatic messages informing callers that the Company was already aware of service issues in their area discouraged customers from completing their calls, and her concern, based on the Company's response to a Public Staff data request,

[1] Following the Raleigh public witness hearing, Witness Daniel submitted statements to the Public Staff via email, including on August 18, 2018, indicating that she continued to experience discolored water at her home. The Public Staff filed Witness Daniel's August 18, 2018, statement in Docket No. W-218, Sub 497. The following is a link to the filing: https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=a83fc513-c7b3-4eb9-8599-94e35819c3ba.

that the Company is not accurately recording the number of customer calls. (T 3, pp 30-31) Another customer service issue Witness Daniel testified to was the receipt of inaccurate communications from the Company about service interruptions. (T 3, p 31) Specifically, Witness Daniel testified that she had received a telephone message about a service outage that did not apply to her neighborhood, and that she had received a telephone message notifying her that the Company would be flushing one day after the flushing had already commenced. (T 3, pp 31-32)

At the conclusion of her testimony, Witness Daniel outlined a number of requests related to the Company's application for a rate increase. Witness Daniel requested that the Company investigate and make reports to the Commission regarding the cause and status of the water quality issues in the Bayleaf system, that the Company's plan to remediate those issues be subject to approval by the Commission, and that the investigation and remediation be paid for out of existing rates. (T 3, pp 32-33) Witness Daniel further requested that the Company make changes to its call center practices to ensure that customers are not discouraged from completing calls about service problems, and that customer complaints are accurately recorded. (T 3, p 33) Finally, Witness Daniel requested that the Company provide improved customer service, including providing more timely information about service interruptions, reasonable timetables for

completing repairs, narrower timeframes for flushing activities, and billing credits to customers who have to flush at their house due to discolored water. (T 3, pp 33-34)

In addition to Witnesses John and Daniel, the vast majority of the remaining witnesses at the Raleigh public witness hearing testified to having experienced discolored water and other water quality issues such as sediment buildup and sludge, as well as poor customer service. Kristina Heinz, a resident of the Stonebridge subdivision in Aqua's Bayleaf system, documented her family's history of discolored water and customer service issues which dates back to the time they moved into their home in October 2014. See **Heinz Public Hearing Exhibit 1**. Included in **Heinz Public Hearing Exhibit 1** are photographs of plumbing fixtures filled with dark colored water, and of black water flowing from a bathtub faucet. Witness Heinz testified that Aqua employees have told her that the levels of iron and manganese in her water are "within safe limits," but that, when her family obtained independent testing, "They said that the iron levels were 7.5 parts per million and it's supposed to be .3 before you get staining." (T 3, p 113) Witness Heinz continued, "It does stain our tiles, it does stain our toilet, but I'm actually more concerned about what it's doing to the inside of my seven year old." (T 3, p 113)

Many of the witnesses who testified they had experienced discolored water also testified that they had purchased water filtration systems for their homes at their own expense. Witness Susie Holmes, who lives in the Swans Mill subdivision, which is part of Aqua's Bayleaf system, testified that she purchased a water filter and cartridges designed to last three months which became saturated with a black substance after just six weeks. (T 3, p 107) Witness Holmes provided a photograph of the filter, which was identified as **Holmes Public Hearing Exhibit 1**. Witness Holmes also testified that an Aqua technician who tested the water at her house informed her that her water tested normal, with the exception of iron and manganese which he indicated were present in such high levels that they were "off the chart." (T 3, p 108)

Witness Robert Strazis lives in Barton's Creek Bluffs subdivision, which is also part of Aqua's Bayleaf system. He testified that he complained to Aqua on numerous occasions about water quality problems in 2014, and ultimately decided to install a whole house water filtration system in his home. (T 3, p 139) Witness Strazis provided a photograph of one of the cartridges from his filter which appears completely black. **See Strazis Public Hearing Exhibit 1.** A label affixed to the cartridge shows it was installed on August 27, 2017, and removed October 12, 2017. Witness Strazis also provided

a photograph showing his bathtub containing dark colored water and sediment. **See Strazis Public Hearing Exhibit 1.**

In addition to the water quality and customer service complaints, one witness at the Raleigh public witness hearing objected to proposed increase to the base charge for water service, and voiced support for metered sewer rates.

The fourth and final public witness hearing took place on June 26, 2018, at the New Hanover County Courthouse in Wilmington. Six customers provided testimony at the hearing. The majority of the witnesses opposed the size of the rate increase sought by the company, including the over 50% percent increase in the sewer rate requested by the Company for the Fairways service area. One of those witnesses, Mr. Guenter Kass, also testified that he was opposed to the Consumption Adjustment Mechanism (CAM) requested by the Company, which he opined was simply a "disguised rate increase." (T 4, p 20) In addition to the testimony opposing the size of the rate increases sought by the Company, one witness testified that flat sewer rates were unfair to households with few people. (T 4, pp 16-17) Another witness, Mr. Dan Graney, testified about correspondence he received on three occasions which were from what he described as a "brokerage" but mentioned Aqua. Witness Graney testified that the correspondence was marketing material for an insurance product to insure the water line

from the street to his house. (T 4, p 40) Witness Graney testified that he did not give the Company permission to disclose his information to a marketing firm, and that he would be opposed to such a disclosure. (T 4, p 41)

The referenced public hearing exhibits are included as **Junis Exhibit 1** as follows:

Table 2

Junis Exhibit 1	Public Hearing Exhibit
Part A	Daniel Public Hearing Exhibit 1
Part B	Heinz Public Hearing Exhibit 1
Part C	Holmes Public Hearing Exhibit 1
Part D	Strazis Public Hearing Exhibit 1

CUSTOMER STATEMENTS

Q. HAS THE PUBLIC STAFF RECEIVED ANY CUSTOMER PROTESTS?

A. Yes. The Public Staff has received approximately 57 written customer statements of position as of August 21, 2018. The statements were in the form of letters, emails, and facsimile transmissions. Approximately 43 of the statements detailed issues with water quality. The Public Staff has received follow-up responses to questions posed by the Public Staff from approximately 16 customers. In addition to the statements submitted to the Public Staff, approximately 21 statements were submitted to the

Commission via email. The issues most frequently raised by the customers were opposition to the Company proposed rate increase, water quality issues such as discoloration, customer service, and desire for metered sewer rates. During Aqua's last general rate case (Docket No. W-218, Sub 363), I provided testimony describing 239 customer statements of position expressing similar concerns to those expressed in this case.

The following customer statements and/or follow-up responses, which are representative of all the statements submitted, are included as **Junis Exhibit 2** as follows:

Table 3

Junis Exhibit 2	Customer Name	Date
Part A	Evola	4/29/2018
Part B	Reeder	6/18/2018
Part C	Brooks	6/21/2018
Part D	Strom	7/19/2018
Part E	Preve	7/27/2018
Part F	Pfeiffer	8/14/2018

Mr. Stephen Evola is a resident of the Village of Wynchester subdivision, which is in Aqua's Sedgemoor system. On April 29, 2018, Mr. Evola submitted a statement to the Public Staff via email describing a history of discolored water at his home, which he indicated had damaged plumbing fixtures, appliances, and clothing.

In order to address the discolored water issue, Mr. Evola installed a water purification and filtration system at his house, which he indicated in response to questions from the Public Staff cost approximately $5,000. Mr. Evola attached to his statement photographs of his filters, which he indicated he had to clean on a monthly basis to prevent them from becoming clogged. Mr. Evola requested that Aqua not be granted another rate increase until it provides clean water.

Mr. John Reeder is a resident of the Stonebridge subdivision, which is in Aqua's Bayleaf system. On June 18, 2018, Mr. Reeder submitted a statement to the Public Staff via email outlining areas in which Aqua's service has declined since it began providing water service. Mr. Reeder indicated that discolored water had become a common occurrence, and that he was concerned about its impact on his family's health and property value. Mr. Reeder also indicated that communications from the Company regarding flushing activities were inadequate and confusing. To illustrate, Mr. Reeder stated, "I have received text messages advising me of a flushing in my area and the dates given are 2 weeks before I received the message." Mr. Reeder further stated that Aqua's office in Cary would not accept calls from customers, and that the representatives at Aqua's call center were uninformed about issues in his area. In an email responding to questions from the Public Staff, Mr. Reeder stated that

he wrote to the Company's president about the Company's poor communication, but did not receive a response. Mr. Reeder requested that the Commission order Aqua to fix the increasingly common discolored water and obtain customer feedback to determine whether the Company has complied.

Mr. Austin Brooks, who receives water service from Aqua's Bayleaf system, submitted a statement and photographs to the Public Staff and the Commission on June 21, 2018. Mr. Brooks provided photographs of dark sediment lining his bathtub and sink. Mr. Brooks stated that the mineral deposits in his water were causing damage to his pipes, plumbing fixtures and laundry. Mr. Brooks opposed an increase in Aqua's rates to pay for further improvements to infrastructure given the continued water quality issues following the implementation of improved equipment.

Ms. Sharon Strom submitted a statement to the Public Staff via email on July 19, 2018. Ms. Strom, who receives water from Aqua's Bayleaf system, indicated that she has experienced discolored water for several years, and that she purchased a $7,000 water filtration system for her home as a result of her water quality issues. Ms. Strom included photographs of a sink and a glass, both filled with dark colored water.

Mr. Jordan Preve is a resident of the Coachman's Trail subdivision, which is serviced by Aqua's Bayleaf system. On July 27, 2018, Mr. Preve submitted a statement to the Public Staff via email regarding his water filter. In a follow-up to questions from the Public Staff, Mr. Preve stated that the cartridges for his water filtration system, which he indicated cost over $4,000 to purchase and install, became discolored just a few days after he replaced them. Mr. Preve also stated in his follow-up that he contacted Aqua on four occasions to obtain the most recent lab analysis for his water system, but did not receive a response until after contacting an employee of the North Carolina Department of Environmental and Natural Resources.

Mr. Rick Pfeiffer is a resident of the Wakefield Estates subdivision. On August 14, 2018, Mr. Pfeiffer submitted a statement and provided photographs of discolored water in his sink, toilet, and bathtub to the Public Staff. Mr. Pfeiffer stated:

> We have had constant water problems since we moved into our new home 18 years ago. We have problems every couple of weeks, and used to call when we had problems. We now have given up calling Aqua anymore, as it did no good. Nothing has changed.

In an email dated August 16, 2018, following-up on questions from the Public Staff, Mr. Pfeiffer stated that an Aqua technician had tested his water the previous day and told him that the iron and manganese levels were "well beyond acceptable limits[.]" The

concentration levels reported by the Aqua technician were 2.02 mg/L of iron and 0.293 mg/L of manganese, exceeding the secondary maximum contaminant limits of 0.3 mg/L and 0.05 mg/L, respectively.

The Public Staff will continue to follow-up on the issues brought to our attention.

Q. HAVE YOU REVIEWED AQUA'S CUSTOMER COMPLAINT RECORDS?

A. Yes, based on the testimony and written statements of customers and Ordering Paragraph No. 11 of the Commission's Order Granting Partial Rate Increase, Approving Rate Adjustment Mechanism, and Requiring Customer Notice issued May 2, 2014, in Docket No. W-218, Sub 363 (Sub 363 Order), I have reviewed Aqua's records for customer complaints related to water quality (discolored) from January 2016 through June 2018. Aqua tracks normal business hours and after-hours complaints separately, recording different information in different formats. The Company issues a LABD, a category of work/service order, in response to discolored water complaints received via business hours phone calls and online inquiries necessitating a work order. The LABDs are used by the Company to track, quantify, and report on customer water quality complaints. For example, the Public Staff has confirmed that LABDs

are quantified by Aqua for the purpose of complying with Ordering Paragraph No. 11 of the Sub 363 Order. At a minimum, Ordering Paragraph No. 11 requires the Public Staff and Aqua to file a semi-annual written report to address secondary water quality concerns affecting the lesser of 10 percent or 25 customers in an individual subdivision.

I have reviewed the Eighth Semi-Annual Report Concerning Secondary Water Quality Concerns, filed April 13, 2018 in Docket No. W-218, Sub 363A, to compare the LABD complaints and the after-hours complaints reported in the six-month period ending December 31, 2017. Of the 12 subdivisions or service areas included in the Report, 6 should have had at least 1 additional complaint reported. The most egregious of omissions were 17 water quality complaints and 7 customers that were not represented by the 28 water quality complaints from 20 customers reported by the Company for the Waterfall Plantation/Thompson Mills subdivisions. This likely means customer complaints in previous reports were also under quantified. The more significant issue is additional individual subdivision service areas may have met the 10%/25 threshold and should have been reported on. This would be in clear noncompliance with the Commission's Sub 363 Order.

I recommend that the Commission order the Company to compile and incorporate the after-hours water quality complaints in any future reports and submit supplemental filings detailing any additional complaints, customers, and/or subdivision service areas to the Seventh and Eighth Semi-Annual Reports to determine whether additional subdivision service areas meet the 10%/25 threshold. I further recommend that the Commission consider imposing more rigorous standards for reporting water quality complaints, and the imposition of a penalty pursuant to N.C. Gen. Stat. § 62-310, should the Company fail to comply with Ordering Paragraph No. 11 of the Sub 363 Order going forward.

Aqua addressed customer requests to improve its call center in the "Response to Customer Concerns from June 25, 2018 Public Hearing in Raleigh" report filed on July 20, 2018. Previously, Aqua's call system utilized an interactive voice response (IVR) function to provide an automated response about the status of service issues based on a caller's zip code. Aqua described the potential problems caused by the IVR function stating, "When a zip code was entered, the automated response could indicate that a general service issue existed for an entered zip code; however, zip codes have large populations and have multiple subdivisions within them. This may result in customers being misinformed or confused about specific

issues in their area." The IVR function was eliminated from Aqua's call system effective July 11, 2018.

PLANT CONDITIONS AND OPERATIONS

Q. HAVE YOU INSPECTED AQUA'S WATER AND SEWER SYSTEMS?

A. Yes, on July 18, 2018, Lindsay Darden, Engineer of the Public Staff Water, Sewer, and Telephone Division, and I inspected the new 10,000-gallon hydropneumatic water tank at Beau Rivage Well No. 5, which was completed in May 2018. A building on the site that previously housed the well and tank was modified into a storage building. We were accompanied by Megan Jost, Public Staff Attorney, and Manasa Cooper, Public Staff Accountant.

Additionally, on July 18, 2018, we inspected the wastewater treatment plants (WWTPs) at Beau Rivage and The Cape and the lift station at Dolphin Bay. In June 2018, the Company completed the replacement of the previous 100,000-gpd Beau Rivage WWTP, which was deteriorated from age and salt air, with an expanded 200,000-gpd WWTP. The new WWTP, which cost over $4 million, has a mechanical fine screen with sand and grit removal, concrete clarifiers, effluent cloth filters before UV disinfection, and a permanent onsite emergency power generator. At the 260,000-gpd The Cape WWTP, the Company completed construction of a

100,000-gallon equalization (EQ) tank in September 2017 and installation of a mechanical fine screen with sand and grit removal in June 2018. The 100,000-gallon EQ tank was scaled to meet operational needs when the existing 260,000-gpd WWTP is replaced with a new 400,000-gpd WWTP in the next three to five years. The Company completed significant upgrades to the Dolphin Bay lift station in May 2017 after decommissioning the Dolphin Bay WWTP. The improvements were necessary to pump wastewater influent from the Dolphin Bay site to The Cape WWTP.

On July 27, 2018, Ms. Darden and I inspected water systems at Stoney Creek and Shadow Lakes. Aqua completed construction of greensand type (i.e., manganese oxide) filtration at the combined entry point of Stoney Creek Well Nos. 1 and 4 in May 2018 and at Shadow Lakes Well No. 1 in October 2017.

Additionally, on July 27, 2018, we inspected the wastewater treatment plants at Carolina Meadows, Governors Club, and Neuse Colony. At the Carolina Meadows WWTP, the Company completed a major modification and rehabilitation project in May 2018. Existing tankage was converted into a 90,000-gallon EQ tank and a separate 60,000-gallon digester. In addition, a mechanical fine screen was installed to improve sanitation and to help prevent rags and other debris from damaging equipment and decreasing the efficacy of the

treatment process. The building was remodeled to address mold and facilitate operational testing and chemical storage. Aqua has converted to reclaimed water for process water needs to reduce purchased water expense. At the Governors Club WWTP, the Company completed installation of two new connected package EQ tanks and numerous other improvements, including new blowers, microbubble aeration, and variable-frequency drive (VFD) controls, in late 2017 and early 2018. The treatment trains are approximately 15 and 30 years old and replacement of the digester and generator are imminent. At the Neuse Colony WWTP, the Company completed rehabilitation of the effluent filter system in June 2018. The rehabilitation project required replacement of the air scour system and filter media. While visiting the site, we were able to observe the proposed location of the interconnection with Johnston County's wastewater collection system.

The Public Staff has, on numerous occasions since Aqua's last general rate case, met with Aqua personnel to discuss a range of topics including, but not limited to, emerging technologies, water quality, flushing, meter replacements, outages, and projects. In addition to these meetings and presentations, the Public Staff has conducted several site visits. For example, the Public Staff observed the cleaning of the hydropneumatic tank and distribution system flushing at Upchurch.

Q. BRIEFLY DESCRIBE THE RESULTS OF YOUR INVESTIGATION OF THE WATER AND WASTEWATER SYSTEMS.

A. I have reviewed DEQ records, and discussed the operation of the water systems on multiple occasions with appropriate DEQ staff. I will continue to interact with DEQ to follow-up on water quality issues at Aqua's systems. I have reviewed the transcripts of the public hearings. Additionally, I have reviewed Aqua's reports on customer testimony from the public hearings and Aqua's Three Year Water System Improvement Charge (WSIC)/Sewer System Improvement Charge (SSIC) Plan. I have determined that Aqua's water utility systems are generally in compliance with federal and state regulations, testing requirements and primary water quality standards. Where problems have been identified, Aqua has generally corrected the problems or is actively working toward solutions.

Aqua is taking an incremental approach, chemical treatment, flushing, tank cleaning, cartridge filtration, and then greensand type filtration systems, to address concentration levels of iron and manganese exceeding secondary water quality standards. The chemical treatment of iron and manganese has had mixed results. Aqua indicates SeaQuest will disperse and sequester the iron and manganese that comes into the water from natural sources and keep it in its natural colorless state. Aqua either chose not to or was

operationally unable to flush water systems converted to SeaQuest according to the manufacturer's recommended schedule of 30 days, 60 days, 90 days, and 1 year after introduction. This, in combination with limited flushing from approximately 2007 through 2012, has resulted in exacerbated discolored water issues. In general, the installation and operation of greensand type filtration systems will remove a majority of the iron and manganese from the source water; however, the Public Staff has consistently stated that for a well water quality filter to provide effective filtration, the system must be properly designed, installed, operated, and maintained. On multiple occasions (such as Saddle Run and Waterfall Plantation/Thompson Mills), Aqua systems, with a majority or all of its supply wells having filtration systems, have had significant discolored water issues.

The Public Staff has actively worked with DEQ and Aqua to address secondary water quality issues and methods to identify and prioritize systems in most need of a filtration system. The Public Staff as its contribution to the meetings and discussions seeks to balance cost effective solutions, including operational improvements and filtration, with safe, reliable, and clean water utility service.

Q. DO YOU HAVE ANY RECOMMENDATIONS REGARDING THE WATER QUALITY CONCERNS?

A. Yes, I do. Similar to the Commission's Sub 363 Order, I recommend that the Commission order the Company to file bi-monthly written reports addressing water quality concerns identified and presented by customers at the public hearings in this proceeding, including customers served by the Bayleaf, Hallmark, Saddle Run, Waterfall Plantation/Thompson Mills, Upchurch, Aero Park, and Yorkwood systems. Such reports should describe what is being done by Aqua to address water quality issues and shall include summaries of customer concerns raised, results of water laboratory analyses (including soluble and insoluble concentration levels of iron and manganese) to measure baseline concentration levels and the effectiveness of chemical sequestration treatment and budgetary cost estimates to install filtration systems (manganese oxide or other filtration options deemed appropriate) at Aqua's systems with iron and manganese water quality issues.

I recommend that the Commission order the Company to file written reports on June 1 and December 1 each year. If a particular secondary water quality concern has affected or is affecting 10 percent of the customers in an individual subdivision service area or 25 billing customers, whichever is less, the customers affected and the estimated expenditures necessary to eradicate the secondary water quality issues through the use of projects eligible for recovery through the WSIC should be detailed in the written report.

Furthermore, I recommend that the Commission order Aqua to convey to the Public Staff conversations with, reports to, and the recommendations of DEQ regarding the water and wastewater quality concerns being evaluated and addressed in Aqua's systems in a timely manner. I recommend that such communication be in a written format and provided, at a minimum, on a bi-monthly basis. I also recommend that Aqua be required to provide the Public Staff with copies of: (a) Aqua's reports and letters to DEQ concerning water quality concerns in its systems; (b) responses from DEQ concerning reports, letters, or other verbal or written communication received from Aqua; and (c) DEQ's specific recommendations to Aqua, by system, concerning each of the water quality concerns being evaluated by DEQ.

WATER UTILITY PLANT IN SERVICE (UPIS)

Q. WHAT ADJUSTMENTS HAVE YOU MADE TO WATER UPIS?

A. Aqua's general rate case filing includes capital cost for the implementation of the Company's AMR Meter Replacement Program. My adjustments are detailed later in my testimony.

AMR METERS

Q. PLEASE DESCRIBE THE PUBLIC STAFF'S INVESTIGATION, FINDINGS, AND RECOMMENDATIONS PERTAINING TO THE REASONABLENESS, PRUDENCY, AND COST-EFFECTIVENESS OF WATER METERING TECHNOLOGIES.

A. The stipulation between Aqua and the Public Staff in Docket No. W-218, Sub 363 (Sub 363 Stipulation), stated that "the Public Staff has the right as a matter of law to challenge the reasonableness, prudency, and cost effectiveness of Aqua's investment in AMR-RF meters in future cases." Paragraph No. 15 of the Sub 363 Stipulation.

The Public Staff has investigated Aqua's implementation of water metering technologies but, first, it is important to identify and define the acronyms associated with water metering technologies.

RF: radio frequency, alternative mediums for data transmittance include cellular and wired.

AMR: automated meter reading, typically used to describe drive-by RF meters. The communication is primarily one-way, that is the "meter" sends data to the receiver.

ERT: encoder receiver transmitter or communication module, functions as the radio and antenna for the meter to send data.

AMI: advanced metering infrastructure, typically used to describe fixed point networks with strategically distributed collectors or receivers that are capable of two-way communication with the meter.

Standard meter: the meter reader has to manually read the meter reading and log it on a handheld computer device.

Aqua NC Water: the Aqua North Carolina uniform water rate division.

Aqua has invested $4.039 million in the replacement of 17,441 standard meters with AMR meters and installation of 19,768 ERTs as part of its Meter Replacement Program. The Meter Replacement Program was initiated by Aqua America, Inc. (Aqua America) and implementation began in 2017. From 2013 through 2016, Aqua averaged 569 Aqua NC Water meter replacements per year. In 2017, the Company replaced 15,760 Aqua NC Water meters or an increase of over 2,600%.

The Public Staff requested a complete and detailed cost-benefit analysis in Public Staff Engineering Data Request (EDR) 12. See **Junis Exhibit 3, Response to EDR 12 Q1**. In part, the Company's response states, "Aqua NC considers this part of our company-wide (Aqua America) operationally driven Meter Replacement Program." (Response to EDR 12 Q1) In other words, Aqua America is directing Aqua to implement RF metering technology. In response to a March 2017 Public Staff data request, Aqua states:

> The company-wide program for all other states utilizes the use of a mobile AMI (AMR) (RF) technology. As Aqua NC is the only state in the Aqua America (Aqua) footprint not pervasively using AMR technology, an incremental cost benefit analysis was prepared supporting our conversion from manual read meters to RF in coordination with the meter change out program.

See **Junis Exhibit 4, Response to Mobile AMR Data Request No. 2 Q1a.**

In certain northern states in which Aqua America provides water utility service, some water meters are located inside the customers' homes and there is substantial, both in quantity and duration, snow covering the outdoor meter boxes. AMR meters can be helpful and cost-beneficial in those circumstances; however these conditions are not typical in North Carolina. North Carolina is different from many of the other states in which Aqua America provides water utility service in that a majority, closer to the entirety, of the residential water meters are located outside in meter boxes, near the street or front property line, and visible with the exception of a limited number of snow covered days. In comparison, electric utility meters are normally located on the side of a customer's house, sometimes inside fences, and a distance away from the street.

In response to EDR 22 Q1, the Company provided a cost-benefit analysis calculating a monthly benefit to customers of $0.11 and with what the Public Staff believes to be significant failings: the assumption that the per meter installation cost is the same for a standard meter and an AMR meter; the incremental nature does not capture the true cost of multiple AMR meters over the 30.30-year depreciation life determined in the 2017 Depreciation Study prepared by Gannett Fleming Valuation and Rate Consultants, LLC, and filed

in this docket on June 8, 2018, with the testimony of Company witness John J. Spanos; and no costs, only benefits, are included for developing and deploying programs and services to utilize the additional data available from the read and flag logging capabilities. See **Junis Exhibit 5, Aqua AMR Cost-Benefit**. The AMR meters installed by Aqua have the following noteworthy functionalities:

- When the meter is read, the receiver collects the meter reading at that moment, a history of 40 daily readings (recorded at 12:01 am ET), and any indicators.
- The indicators or flags include tamper, high consumption, and zero consumption.

These functionalities are mitigated by the following facts:

- Onsite readers can observe whether a home appears to be occupied, for sale, or vacant, evidence of meter tampering such as tool marks, signs of extensive lawn and shrub irrigation, and signs of a leak. The meter reader can enter these comments into the handheld meter reading computer and be automatically required to verify and re-enter zero or high readings.
- After implementation of AMR/AMI, the meter is not visually inspected each month and over time the meter box can become covered with dirt and/or vegetation making it

difficult and time consuming to locate when a manual verification reading or maintenance is necessitated.

- The 40 day read history is **NOT** accessible by customers.
- The customers have **NOT** been notified that Aqua planned to and is collecting the 40 day read history.
- The Aqua billing system generates an estimated bill for accounts with a high consumption or missed read without providing the customer the indicator or flag. Again, the Company is **NOT** sharing the available information to the customer.

The Public Staff communicated concerns about Aqua's cost-benefit analysis dating back to early 2017. As part of the Public Staff's Mobile AMR Data Request No. 2, the Public Staff sent to Aqua a modified version of Aqua's analysis that resulted in an unfavorable additional cost per customer per month of $0.30, not including any potential costs related to the retirement of Aqua's existing standard meters. Aqua responded by stating in part that the "updated installation price from our national vendor is currently <$45 per meter" and "the install cost has no net impact on the incremental cost to our customers as there may only be a nominal installation difference when an RF versus a standard meter is installed." (**Junis Exhibit 5**) First, the Company had already performed a meter

replacement program in the Brookwood Water service area in 2012 and 2013 and were invoiced by an outside contractor specific individual installation costs for the meter, meter interface unit (MIU) radio (comparable to the ERT), and mounting rod by Mueller Service Co. See **Junis Exhibit 6, Sub 363 ADR 55 Q11**[2]. Second, the average Itron installation cost of $69.84 per AMR meter far exceeds $45 and Aqua's previous installation costs of standard meters by an independent contractor. The cost-benefit analyses prepared by Aqua materially overstate the labor costs to replace standard meters. Itron, Inc., the previously referenced national vendor, manufactures and sells communications equipment and services including the AMR ERTs being purchased by Aqua.

By making a singular conservative adjustment to the Company's cost-benefit analysis, the result is an additional cost of $0.05 per month per customer without any realized benefits to the customers. See **Junis Exhibit 7, Aqua Labor Adjusted Cost-Benefit**. The adjustment is to simply decrease the installation labor cost of a standard meter from $71.86 to the still excessive $57.26 that the Company calculated to be its average installation cost utilizing Aqua personnel. See **Junis Exhibit 8, EDR 51 Q1**. The exhibit includes

[2] The invoices provided are an excerpt and representative of the all of the invoices provided in response to Sub 363 ADR 55 Q11.

Aqua's calculation and the Public Staff's calculations (highlighted in grey). However, Aqua's calculation vastly over quantifies Aqua's labor cost to in-kind replace standard meters. Aqua's installation cost of $57.26 assumes an average duration of one and a half (1.5) hours per meter replacement and the internal labor cost to be $21.21 per hour. However, when conducting a meter replacement project, which would likely be entire subdivisions, the laborer would be traveling from house to house with several minutes, at most, in between. Aqua averaged the hourly labor costs for the following field personnel:

Facility Operator Trainee	Utility Technician Laborer
Facility Operator I	Utility Technician
Facility Operator II	Utility Technician I
Facility Operator III	Utility Technician II
Meter Reader	Utility Technician III
Sr. Meter Reader	

The descriptions from job postings on Aqua America's website indicate each underlined above position's responsibilities include either installation of meters or replacement of inoperable meters. The job descriptions for the Facility Operator group do not include

installing or replacing customer water meters. Compiling the Utility Technician Laborer, Utility Technician, Utility Technician I, Meter Reader, and Sr. Meter Reader, the average hourly labor rate is $15.23 compared to the average of $21.21 for all field employees. By utilizing the average internal labor rate of $15.23 per hour and 1.86 standard meter replacements per hour, including the 80% loading for allocated costs the same as Aqua, the average labor installation cost per standard meter replaced is calculated to be $14.80. (EDR 51 Q1) This can be compared to the per meter replacement rates quoted of $71.86 by Itron and $57.26 calculated by Aqua.

The Public Staff has calculated an average duration of 0.54 hours or 32 minutes per meter replacement, conservatively based upon discussions with three persons[3] with nearly 100 years of combined experience in the water utility industry, including extensive experience replacing standard water meters in Wake and Johnston Counties. In general terms, each stated that, being generous, it should only take approximately 15 minutes, and as quick as 5 minutes, to replace a standard water meter, including flushing the

[3] I personally spoke with Debra Massey, Gary Pierce, and Danny Lassiter. Ms. Massey has approximately 24 years of water utility industry experience while working for Heater and presently EnviroLink. Gary Pierce is retired with over 30 years of experience in the field installing and replacing meters while working for Heater. Danny Lassiter is retired with approximately 45 years of experience installing and replacing meters, then as a supervisor while working for in the water utility industry.

service line and recording the meter serial number, address, and in and out meter readings. Additional time would be necessary if the meter box, yoke, or other appurtenances required replacement, which the experienced professionals estimated would require about one (1) hour on average.

Adjusting Aqua's cost-benefit analysis for the Company's actual average costs for the meter, installation, and ERT and the Public Staff's standard meter installation cost of $14.80, the analysis results in a $0.66 cost per month per customer for Aqua's AMR deployment. See **Junis Exhibit 9, Updated AMR Cost-Benefit Analysis**.

The meters being replaced as part of the program, which are predominantly standard positive displacement meters without batteries, have had an average useful life of 17.63 years per Aqua's response to EDR 40 Q2. This 17.63 year average service life is a 7.37 year or 29% reduction from the former average service life. In response to EDR 12 Q1, Aqua states:

> The overall meter retirements have generally been consistent with past practices as the average service life has changed from 25 years to 24 years. Newer technology could shorten the average service life of the meters, however, due to group depreciation; the remaining life method; and the variability of assets within the entire account, the asset value will be recovered over the remaining life of all assets.
>
> See **Junis Exhibit 3**.

The industry recognizes a 10- to 20-year useful life before degradation of functionally and accuracy necessitate replacement. As part of the Environmental Finance Center's final report on Studies (EFC Report)[4], which is discussed in further detail as part of my recommendations on the proposed Consumption Adjustment Mechanism (CAM), the Public Staff posed a number of questions including:

> 12. What is the average change-out period for residential water meters (i.e. 10 years, 15 years, 1 million gallons, etc.) for the more professionally-operated North Carolina government water utilities, such as Raleigh, Durham, OWASA, CMUD, Fayetteville PWC, Greensboro, and Winston-Salem?
>
> See **EFC Report, p 12.**

The EFC Report stated "[m]ost of the utilities use around 15 years, although two use more than 15 years and one uses less than 15." (*Id.*) Additional factors such as flow rate, velocity, water quality, and total volume/mileage can all contribute to the degradation of meter accuracy.

[4] The Report to the Public Staff of the North Carolina Utilities Commission and Aqua North Carolina, Inc. on the Studies of Volumetric Wastewater Rate Structures and a Consumption Adjustment Mechanism for Water Rates of Aqua North Carolina, Inc. prepared by the Environmental Finance Center at the UNC School of Government was filed in Docket No. W-218, Sub 363A on March 31, 2016.

https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=a7fd9d58-46ed-425f-9298-c4419f319a1f

The Public Staff has calculated the average standard meter replacement to cost $53.23. Aqua has a Commission approved meter installation fee of $70 as part of its schedule of rates. The meter cost of $38.43 is the invoiced amount from 2015 when Aqua was still frequently utilizing standard meters for replacements. The cost does not reflect any potential and likely discount through national or statewide buying power (the Company bought approximately 20,000 meters since its last general rate case). The average labor cost was calculated by the Public Staff to be $14.80, as described in earlier portions of my testimony. The total average cost of standard meter replacement would have been $53.23 in comparison to the average cost of a meter replacement completed as part of the Aqua NC Water Meter Replacement Program that was $206.43, including AMR meter, ERT, Itron installation, and allocated costs. The average cost of a meter replacement completed in the Brookwood/LaGrange service area was $246.73, including AMR meter, ERT, Itron installation, allocated costs, and additional appurtenances as necessary.

Aqua proposes to include in its new rates the recovery of AMR meter costs. This is in addition to the AMR meter costs being recovered through Brookwood Water rates approved in Sub 363 Aqua has not implemented benefits to the customers while materially increasing the cost to customers. The installation of AMR meters was

imprudent, unreasonable, and not justified by a realistic and comprehensive cost-benefit analysis. The customers should not pay for the increased costs as a result of unreasonable and imprudent decisions by Aqua management. I recommend reductions to rate base for Aqua NC Water and Brookwood in the amounts of $2,853,294 and $1,563,242, respectively. The calculations are presented in greater detail in **Junis Exhibit 10, AMR Meter Adjustment.**

In addition, I recommend the disallowance of any future increase to the depreciation rate of Water Account 334.00 Meters and Meter Installations due to the early retirements that resulted from Aqua's Meter Replacement Program. This is a potential additional cost not considered by the cost-benefit analyses and a result of the group accounting and depreciation methodologies. This is dissimilar to the cases made by Duke Energy Progress and Duke Energy Carolinas, which claimed the retired AMR assets resulting from the implementation of AMI were an extraordinary expenditure and should be amortized over a period of time shorter than the remaining life.

SEWER UPIS

Q. WHAT ADJUSTMENTS HAVE YOU MADE TO SEWER UPIS?

A. Aqua's general rate case filing includes excess capacity adjustments for the Carolina Meadows, The Legacy at Jordan Lake, and Westfall (aka Booth Mountain) wastewater treatment facilities. The excess capacity percentages are identical to the calculations done in Aqua's last general rate case, Docket No. W-218, Sub 363. See Aqua Exhibit C-1-ANC-10.

Based on the calculation methodology established by the Commission and used in Aqua's prior two general rate cases, I have calculated the excess capacity as follows:

Table 4

Plant Name	Installed Capacity (gpd)	EOP REUs	Flow (EOP x 400 gpd)	Excess Capacity (1 – e/c)
Carolina Meadows	350,000	607	242,800	30.63%
The Legacy at Jordan Lake	120,000	184	73,600	38.67%
Westfall (BM)	90,000	145	58,000	35.56%

Public Staff Witness Henry has implemented the updated excess capacity percentages and plant, net of accumulated depreciation and

contributions in aid of construction (CIAC), to calculate the excess capacity adjustment.

PURCHASED WASTEWATER TREATMENT AND TRANSMISSION CAPACITY FROM JOHNSTON COUNTY

Q. PLEASE PROVIDE A BRIEF SUMMARY OF THE FLOWERS PLANTATION DEVELOPMENT IN JOHNSTON COUNTY.

A. The Flowers Plantation development consists of approximately 1,200 acres located along the Neuse River and Highway 42 in Johnston County, North Carolina. The development was conceived of in two parts. See **Junis Exhibit 11, Agreement Map**. The western half (Neuse Colony side) was originally provided wastewater utility service by a 50,000 gallon per day (gpd) package WWTP owned and operated by River Dell Utilities, Inc. The Commission approved the transfer of the Neuse Colony water and wastewater systems by Order issued May 5, 1999, in Docket No. W-274, Sub 220. In 2003 Heater Utilities, Inc.[5] (Heater) completed construction of a 250,000 gpd WWTP. The eastern half (Buffalo Creek side) was to be served by purchased wastewater capacity from Johnston County (County). Functionally, wastewater from both the Neuse Colony side and the Buffalo Creek side would flow to the Neuse

[5] On June 1, 2004, Aqua acquired Heater by transfer of stock.

Colony WWTP site where it could be diverted to the County based on operational needs.

Q. PLEASE PROVIDE A SUMMARY OF THE RELEVANT CONTRACT TERMS.

A. On January 14, 1999, River Dell Utilities, Inc., Rebecca Flowers Finch (d/b/a River Dell Company), and Heater (collectively, the Parties) entered into a three-party purchase agreement for the purchase of the water and wastewater utility systems serving the Neuse Colony side. See **Junis Exhibit 12, Neuse Colony II Purchase Agreement**. Pursuant to this agreement, Heater was responsible for the "construction of all the necessary expansions of the WWTP up to the DWQ permitted discharge capacity of 750,000 gpd." (Neuse Colony II Purchase Agreement, p 21) Additionally the Neuse Colony II Purchase Agreement states:

> There shall not be a purchase price for Existing Wastewater Facilities as Heater shall be responsible to construct all WWTP expansions and the existing 50,000 gpd WWTP shall be transferred to River Dell, at River Dell's sole option, without any purchase payment to Heater, once Heater has constructed the first expansion to the WWTP which will probably be 250,000 gpd.
>
> . . .
>
> Heater, after closing, shall continue to charge for connections to the Existing Wastewater Facilities, the Commission approved connection fee of $1,000 per residential connection for Neuse Colony II. Heater

> shall apply to the Commission for approval of a $1,000 wastewater connection fee for Bennett Place.
>
> (*Id.* at p 15)

The agreement further states:

> Secondary Developer shall pay to Heater a cash contribution in aid of construction the same dollar amount per gallon that Heater paid for the cost of design, engineering, and construction of the last WWTP expansion including regulatory mandated upgrades to the wastewater treatment process.
>
> (*Id.* at pp 36-37)

On May 14, 2002, the Parties entered into an Amended Purchase Agreement for the purchase of the water and wastewater utility systems serving the Buffalo Creek side. See **Junis Exhibit 13, Amended Purchase Agreement**. The Amended Purchase Agreement states that Heater will "treat the wastewater from the land at Flowers Plantation Sections I, II and IIIB on an interim basis at Heater's WWTP at the Neuse River, and then in the future have the County provide bulk wastewater treatment for Heater." (Amended Purchase Agreement, p 4) Additionally the Amended Purchase Agreement states:

> Heater shall pay $75,000 plus 50% of the cost of the construction of the Pump Station and Force Main. . . Heater's 50% payment of the balance shall be recovered equally from the first 2,000 single-family equivalents."

. . .

> Secondary Developer shall pay to Heater a cash contribution in aid of construction the same dollar amount per gallon as the County's then current bulk wastewater capacity fee, which at the time of the execution of this Amended Agreement is $5.50 per gallon. This payment shall be made by Secondary Developer to Heater at the time Heater executes the application to DWQ for approval of the plans and specifications for that phase of the wastewater collection system.
>
> (*Id.* at pp 18-20)

Q. PLEASE PROVIDE A DESCRIPTION OF YOUR ANALYSIS OF THE CONTRIBUTIONS IN AID OF CONSTRUCTION.

A. My investigation required identifying the key components of the wastewater system infrastructure. The components and the approximate date that construction was completed are listed below:

Table 5

Plant	Completion Date
250,000-gpd WWTP	2003
100,000-gpd Expansion	2016
Buffalo Creek Lift Station and Force Main	2007
250,000-gpd County Capacity	Est. 1st Q 2019[6]

[6] Aqua bought 250,000 gpd of wastewater capacity from the Johnston County with a check dated June 21, 2018 in the amount of $2,120,000. The interconnection to Johnston County's collection system is estimated to be complete in the first quarter of 2019.

The Public Staff then reviewed the contracts for the two sides of the Flowers Plantation Development and identified terms and conditions specifically applicable to each of the key components. The Public Staff sent multiple data requests to the Company to compile information necessary to evaluate the contract terms verses the execution of those terms by the Company.

Q. PLEASE DESCRIBE THE FINDINGS FROM THE PUBLIC STAFF'S INVESTIGATION.

A. Based on the original and amended contracts dating back to May 1, 1999 through May 14, 2002, the Public Staff believes Heater and subsequently Aqua agreed to serve the Flowers Plantation Development with minimal investment in the original cost of water and wastewater infrastructure.

Neuse Colony

On the Neuse Colony side, Heater and then Aqua has sold 561,001 gpd of wastewater capacity to developers through connection fees and capacity fees as follows:

Table 6

Time Period	Capacity (gpd)	Rate (per gpd)
12/1/1999-5/16/2016	163,080	$1,038.41 per REU[7]
11/12/1999	29,880	$ 4.00
5/3/2000-5/24/2001	53,240	$ 4.13
3/12/2002-2/23/2016	294,161	$ 4.38
8/31/2016-7/24/2017	20,640	$ 9.47
Total	561,001	

See **Junis Exhibit 14**.

Aqua in response to Accounting Data Request (ADR) 28 Q3 provided materially lacking and incomplete documentation supporting the capacity fees charged to developers, including why constructed plant costs were charged for connections beyond the capacity of the WWTP. See **Junis Exhibit 15, Response to ADR 28 Q3**.

By collecting CIAC from developers for over 200,000 gpd of capacity to developers beyond the permitted maximum allowable flow of the present day 350,000-gpd Neuse Colony WWTP, Aqua is obligated

[7] The contract and Commission approved connection is $1,000 per SFRE, however, according to the records provided by Aqua, $470,400 was collected from developers as CIAC for a total of 453 connections. ($470,400 ÷ 453 connections = $1,038.41)

to provide treatment of wastewater that its current infrastructure may not be able to properly store and treat. If the obligated flow is realized in a short period of time, there is an increased risk of wastewater overflows and/or incomplete treatment and National Pollutant Discharge Elimination System (NPDES) contaminant exceedances. The Clean Water Act prohibits the discharging of pollutants from point sources into a water of the United States, unless the discharge is authorized in accordance with an NPDES permit.[8]

In addition to the potential operational issues, the Public Staff discovered inconsistencies between the contract terms and Aqua's execution of those terms. The table below compares the original cost plant and the contributions in aid of construction (CIAC) amount received by Aqua from developers prior to applying the accumulated depreciation.

Table 7

Plant Capacity (gpd)	Original Cost	Cap. Sold (gpd)	CIAC
350,000	$2,166,023	561,001	$2,294,168

See **Junis Exhibit 14.**

[8] 13 U.S.C. §402

Table 7 shows that Aqua has narrowly collected $128,145 of CIAC or 6% more than the original cost of the utility plant in service (UPIS), while overselling the plant capacity by approximately 211,000 gpd or 60%. This will result in a CIAC shortage when Aqua is necessitated by actual flows and DEQ's 80/90 rules to further expand the WWTP or purchase capacity from the County.

Buffalo Creek Lift Station and Force Main

The Buffalo Creek lift station and force main located along Highway 42 transports wastewater flow from the Buffalo Creek side of the Flowers Plantation Development to the Neuse Colony WWTP. The total cost of the Buffalo Creek Lift Station and Force Main was $1,079,300.76. After removing Heater's contractually allowable investment of $75,000, overhead, and interest costs, then Heater's 50% of the balance is $440,816. Heater invoiced River Dell $440,816 that River Dell paid as CIAC.

In 2006, subsequent to acquiring Heater, Aqua began invoicing and receiving payments for wastewater capacity on the Buffalo Creek side. The $440,816 divided equally to 2,000 single-family residential equivalent (SFRE) is $220.41 per SFRE. Aqua failed to invoice developers their portion of the lift station and force main cost at $220.41 per SFRE up until July 12, 2018, when Aqua sent a letter to Rebecca Flowers providing notice of fee changes. The unrecovered

CIAC amounts to $315,687, which is $220.41 per SFRE for 1,432.27 residential equivalent units (REUs).

Buffalo Creek

On the Buffalo Creek side, Aqua has sold 333,671 gpd of wastewater capacity to developers through capacity fees as follows:

Table 8

Time Period	Capacity (gpd)	Rate (per gpd)
1/11/2006	7,200	$5.50
1/10/2007-5/21/2018	326,471	$6.00[9]
Total	333,671	

See **Junis Exhibit 16.**

The wastewater capacity fee is a negotiated rate between Aqua and Johnston County. The capacity fee has been provided by the County to Aqua at a minimum of four times, 2002, 2009, and twice in 2018. The Bulk Wastewater Agreement and Amended Purchase Agreement dated May 14, 2002, specifically state the current Johnston County capacity fee at the time of execution to be $5.50 per gpd. (Amended Purchase Agreement, p 19) A letter dated August 17, 2009, from Timothy Broome, PE, the then Director of

[9] For one transaction, dated February 10, 2012, the developer changed the number of lots served and the unit price resulted to be $6.26 per gpd.

Utilities and Engineering for Johnston County, states an estimated capacity fee of $8.48 per gpd if the County constructed flow equalization facilities to regulate flow from Aqua and $6.29 per gpd if Aqua provided flow equalization. See **Junis Exhibit 17, Johnston County Capacity Fee Letter**. Johnston County provided updated capacity fees to Aqua in the form of a table titled "Aqua Wastewater Capacity Purchase Projected Costs" dated January 10, 2018. See **Junis Exhibit 18, Johnston County Capacity Fee Table**. The table lists option no. 1 as $10.32 per gpd if the County constructed flow equalization facilities to regulate flow from Aqua and $8.48 per gpd if Aqua provided flow equalization. Johnston County again provided Aqua information pertaining to the bulk wastewater capacity fee of $8.48 per gpd in a letter dated July 12, 2018. The states "[t]his capacity fee assumes Aqua will provide flow equalization (peak flow not to exceed 1.5 times average flow) and pumping into the County's transmission system." See **Junis Exhibit 19, Johnston County Capacity Fee Letter July 2018**. Comparing like kind rates over time the wastewater capacity fee has been $5.50 in 2002, $6.29 in 2009, and $8.48 in 2018.

The developer's first building on the Buffalo Creek side paid to Aqua an average of $5.99 per gpd for 250,000 gpd of capacity from January 11, 2006 through November 10, 2017. Aqua purchased 250,000 gpd of capacity from the County for $8.48 per gpd on June

21, 2018. The CIAC listed in Table 9 below is the amount received for the corresponding quantity of customer demand to the infrastructure capacity. Said another way, Table 8 compares 1 gpd of capacity purchased by developers as CIAC to Aqua to 1 gpd of plant capacity.

Table 9

Plant	Original Cost	CIAC	Net
250,000-gpd County Capacity	$2,120,000	$1,498,900	$ 621,100

Aqua, since acquiring the system from Heater in June 2004, has demonstrated a lack of due diligence in communicating with developers and the County to continually update the capacity fees charged to developers to offset rate base. Instead, Aqua has imprudently continued to sell wastewater capacity to developers as CIAC at rates below the cost to construct and/or purchase capacity necessary to serve those customers.

Q. DO YOU HAVE ANY RECOMMENDATIONS BASED ON THE RESULTS OF THE PUBLIC STAFF'S INVESTIGATION?

A. Yes, my recommendations are as follows:

1. The Company proposes to include $2.12 million in Aqua NC Sewer utility plant in service, which is the cost of purchasing

250,000 gpd of wastewater capacity at a unit price of $8.48 per gpd from the County. N.C. Gen. Stat. § 62-133(b)(1) states that the Commission shall:

> [a]scertain the reasonable original cost of the public utility's property used and useful, or to be used and useful within a reasonable time after the test period, in providing the service rendered to the public within the State, less that portion of the cost that has been consumed by previous use recovered by depreciation expense. Ascertain the reasonable original cost of the public utility's property used and useful, or to be used and useful within a reasonable time after the test period, in providing the service rendered to the public within the State, less that portion of the cost that has been consumed by previous use recovered by depreciation expense.
>
> N.C. Gen. Stat. § 62-133(b)(1) (2017).

Aqua will not have completed construction of the interconnection with the County's wastewater collection system and be able to send customers' wastewater influent to the County until what Aqua estimates to be the first quarter of 2019. The Public Staff recommends the capital cost of $2.12 million be removed from plant in service because the capacity is not "used and useful."

2. The Public Staff recommends the CIAC that Aqua has collected for this 250,000 gpd of wastewater capacity, totaling $1,497,400, collected at $5.50 and $6.00 per gpd be removed. Aqua collected this CIAC from developers as follows:

Year	No. of Dev. Transactions	GPD Sold	CIAC Collected
2006	1	7,200	$ 39,600
2007	5	53,280	$ 319,680
2008	0	-	$ -
2009	0	-	$ -
2010	1	238	$ 1,427
2011	4	7,635	$ 47,312
2012	6	28,820	$ 173,920
2013	8	30,668	$ 184,005
2014	6	24,000	$ 144,000
2015	8	24,000	$ 144,000
2016	10	35,850	$ 215,100
2017	13	38,309	$ 228,355
Total	**62**	**250,000**	**$1,497,400**

If Aqua had purchased the Johnston County wastewater capacity in increments as it was receiving the CIAC from developers, Aqua would have known the correct dollar amount Johnston County wastewater capacity fees thereby collecting the correct amount of CIAC from developers. Instead, Aqua's imprudence resulted in Aqua paying $8.48 per gpd while collecting over an 11-year period an average of $5.99 per gpd and a developer CIAC shortfall of $621,100. The Aqua retail wastewater customers should not pay for Aqua's imprudence.

3. By even the most conservative assumption of $8.48 per gpd to purchase capacity from the County (the unit price paid in

2018), it was imprudent of the Company to construct the 100,000-gpd WWTP expansion at a cost of $908,497 in 2016. The Public Staff recommends the Commission reduce the original cost rate base of the WWTP expansion by $60,497, from $908,497 to $848,000.

4. As to the Buffalo Creek Lift Station and Force Main, the Public Staff recommends the Commission impute the uncollected CIAC in the amount of $315,687 to offset Aqua's existing rate base. (1,432.27 SFREs x $220.41 = $315,687) The Aqua retail wastewater customers should not pay for Aqua's imprudence in failing to collect this CIAC from developers.

An established utility should expect the cost to construct or purchase additional wastewater capacity to change intermittently over time as material, labor, and technology costs change. Aqua on multiple occasions spanning over 10 years did not change the unit price of wastewater capacity charged to developers. This pattern of imprudent mismanagement has resulted in over $1 million of additional costs that Aqua proposes to recover through rate base, including a rate of return via rates paid by customers. The created rate base was avoidable if Aqua would have simply tracked the quantities of capacity being sold to developers on each side of Flowers Plantation, updated the capacity fee to the current rate, and

incrementally and timely purchased capacity from the County as Aqua received the CIAC from developers.

EXPENSES

Q. WHAT ADJUSTMENTS HAVE YOU RECOMMENDED TO OPERATING EXPENSES?

A. I have reviewed certain expenses and make recommendations as follows:

CONTRACT SERVICES – OTHER

I reviewed Aqua's contractual services expenses for both water and sewer operations. Aqua has filed a pro forma adjustment to the Contract Services – Other expense of each rate entity. The $507,880 increase is listed in Column (g) Prof-811 of Exhibit B3-m and based on a contract proposal for a contractor, USIC Locating Services, LLC (USIC), to perform utility locates and other activities in response to the One Call/NC 811 system. For reference, the proposal amounts were as follows:

Table 10

Work	Volume	Rate	Expense
One Call Ticket	63,500	$ 7.75	$ 492,125
Project Rate	635	$ 13.00	$ 8,255
After Hours	300	$ 25.00	$ 7,500
		Total	$ 507,880

In response to Public Staff EDR 28 Q4, the Company stated in part that:

> Aqua has not quantified expense savings associated with having a contractor conduct NC 811 locates. Aqua was not fulfilling all requirements for locates prior to contracting with USIC, and with the contract will be fulfilling the minimum requirements.
>
> See **Junis Exhibit 20, EDR 28 Q4**.

Based on the 9,370 total locate tickets received in the months of May and June 2018, and the fact that USIC started performing the work effective May 1, 2018, I recommend the following normalization adjustments to the proposal estimates:

Table 11

Work	Volume	Rate	Expense
One Call Ticket	56,200	$ 7.75	$ 435,705
Project Rate	562	$ 13.00	$ 7,306
After Hours	300	$ 25.00	$ 7,500
		Total	$ 450,511

The adjustment reduces the number of One Call tickets to an expected annual number of 56,200, which is the 9,370 tickets during May and June normalized to 12-months. The project rate volume was 1% of the quantity of One Call tickets. The Company-wide decrease of $57,369 is allocated by the number of customers in each rate entity.

SALARIES & WAGES

In an effort to quantify the expense savings as a result of USIC performing the One Call/NC 811 work previously performed by Aqua personnel, the Public Staff made multiple data requests. See **Junis Exhibit 21, EDR 33 Q2** and **Junis Exhibit 22, EDR 45 Q1**. Aqua management was originally planning to hire six full-time employees to fully perform the work the Company had been deficient in completing. The evaluation had excluded supervisor time necessary to conduct a cursory review and assign workable tickets in the Company's service territory. Mr. Joe Pearce, Aqua Director of Operations, estimated the expense to Aqua avoided by contracting USIC to be approximately $693,667, which includes the fully loaded costs of ten field staff and one supervisor. Furthermore, the Company stated:

> Approximately 10% of 811 work orders are currently being worked...the remaining 90% are not being addressed timely. This delinquency has exposed ANC to fines/penalties, lawsuits, and significant repair costs necessary to fix damaged unmarked lines.
>
> (EDR 45 Q1, p 1)

Based on Aqua's inability to quantify the actual expense incurred in the test year to address One Call/NC 811 tickets, the responses referenced above, and the fact that the Company has stated approximately 40% of all the tickets were workable and only 10% of those were being completed, I recommend reducing workforce

expense for 50% of a Field Supervisor I's workload and 50% of three Utility Technicians' workload, one from each of the three regions, to complete tickets that the Company responded to prior to contracting USIC. This adjustment has been implemented by Public Staff Witness Henry.

PURCHASED WATER

Q. WHAT IS YOUR RECOMMENDED LEVEL OF PURCHASED WATER EXPENSE FOR INCLUSION BY WITNESS HENRY IN DETERMINING THE REVENUE REQUIREMENT?

A. I have reviewed purchased water expenses filed in Aqua's application and find the total expense level filed in Exhibit B3-b of $1,947,892 to be excessive. For nine of the third party water provider accounts, Aqua operations resulted in test year water losses exceeding 15%. The highest two being the City of Asheville and City of Concord that resulted in 74% and 64% of the water purchased by Aqua being unaccounted for, respectively.

In response to EDR 13 Q1, Aqua stated the Aqua NC Water purchased water loss percentage to be 13%. See **Junis Exhibit 23**. This percentage included a surplus (Aqua sells more gallons than it buys) from the City of Lincolnton, which Aqua has provided updates to reduce from 47% to 32%. In addition, Aqua buys approximately half of overall Aqua NC Water purchased water from Johnston

County and sells that purchased water to customers in the Flowers Plantation development, a relatively new and leak-free distribution system.

In response to EDR 53 Q 3, Aqua provided an update for the quantity of gallons purchased from the City of Lincolnton and an increase in the cost of purchasing water utility service from Johnston County, which I have incorporated. Based on an acceptable level of water loss of 15%, I calculated reductions in the quantity of water purchased from the nine third-party providers previously referenced as follows:

Table 12

Provider	Test Year Units[10] (kgal.)	Water Loss[11]	PS Adjusted Units[12] (kgal.)
Cty. Asheville	4,260	74%	1,299
Cty. Concord	5,578	64%	2,354
Cty. Hendersonville	10,830	19%	10,306
Cty. Mt. Airy	6,150	31%	5,010
Davidson Water	8,714	24%	7,749
Harnett County	46,515	26%	40,234
Iredell Water	1,457	27%	1,247
Town Pittsboro	30,811	22%	28,234
Town Spruce Pines	2,639	24%	2,374

[10] The quantities are per Aqua's rate case filing Exhibit B3-b-3.

[11] Calculated by comparing the gallons sold in Exhibit Hw to gallons purchased in Exhibit B3-b-3.

[12] Calculated quantity of purchased water allowing a maximum of 15% water loss.

The calculations of the reduced purchased water quantities and expenses are reflected in **Junis Exhibit 24**. Aqua NC Water customers should not pay for excessive water loss due to lack of oversight, maintenance, and repair. The Company indicates for certain systems, City of Asheville and Iredell Water, and for at least the last 7 months water losses have been at 15% or below 10%, respectively.

I recommend the overall Aqua purchased water expense be decreased to $1,874,222.

BILLING ANALYSIS

Q. WHAT CHANGES ARE REFLECTED IN YOUR UPDATED TEST YEAR BILLING ANALYSIS THAT ARE NOT REFLECTED IN THE ANALYSIS FILED BY THE COMPANY?

A. My adjustments are footnoted in my billing analysis report attached to this testimony as **Junis Exhibit 25**.

Updating the test year billing data to the 12 month period ending June 30, 2018, resulted in a higher level of bills than reflected in the originally filed application for the 12 month test year period ending September 30, 2017. I have also adjusted the consumption for the updated data using a three year average (July 2015 through June 2018) compared to only using the 12 months ended June 30, 2018. The consumption adjustment resulted in a 0.47% decrease for Aqua

NC Water, 1.85% decrease for Aqua NC Sewer, 1.21% increase for Brookwood Water, 2.97% increase for Fairways Water, and 0.91% decrease for Fairways Sewer to reflect the difference between the test year per customer usage and the three year average for the period ended June 30, 2018.

Q. DID YOU PROVIDE DATA NEEDED FOR PUBLIC STAFF WITNESS HENRY TO CALCULATE CUSTOMER GROWTH AND CONSUMPTION FACTORS TO APPLY TO THE TEST YEAR EXPENSES?

A. Yes. Using the data in my billing analysis exhibit updated through June 30, 2018, Public Staff witness Henry was able to calculate the growth and consumption factors referred to in his testimony. In addition, I recommend that Witness Henry apply the growth and consumption factors to the sewer and water short-term variable expenses identified by the Environmental Finance Center. (EFC Report, pp 6 and 11) The exceptions being sludge removal, purchased wastewater treatment, and purchased water expenses. The sludge removal expense was calculated by Public Staff Witness Darden to be the annual average of the updated two-year period ending June 2018, which includes recent growth and changes in consumption. Short-term variability of the purchased wastewater

treatment and purchased water expenses are almost entirely matched by variability of the commodity revenues of those systems.

Q. WHAT IS THE PUBLIC STAFF'S POSITION ON AQUA'S REQUESTED CONSUMPTION ADJUSTMENT MECHANISM?

A. During Aqua's last general rate case, the Public Staff and Aqua stipulated in Paragraph No. 13 of the Sub 363 Stipulation that:

> Aqua and the Public Staff disagree regarding whether Aqua should be allowed to implement a "consumption adjustment mechanism," as described in the prefiled direct testimony of Aqua witnesses Szczygiel (pp. 10-11) and Roberts (pp. 20-22). Aqua agrees to withdraw this testimony and in lieu of pursuing that mechanism in this case, the Company agrees with the Public Staff that Aqua shall fund a study of mechanisms that address the rate impact to customers and the revenue impact to Aqua from significant changes in customer consumption patterns, such study to be conducted by the EFC at the same time as the volumetric sewer rate study conducted pursuant to Paragraph 12 above. The Stipulating Parties shall work together with the EFC to determine the parameters of the study and shall jointly oversee the performance of the study. Upon completion of the study, a report setting forth the data, methodology, assumptions, and findings of the study shall be filed with the Commission by the Stipulating Parties. Aqua may defer the costs of this study on its books and request that such costs be amortized to the cost of providing utility service in the Company's next general rate case; provided, however, that the Public Staff reserves the right during the next rate case to contest the inclusion of such costs in the Company's cost of service.

In the Sub 363 Order, the Commission ordered:

> 15. That the Company shall fund a study of mechanisms that address the rate impact to customers and the revenue impact to Aqua from significant

> changes in customer consumption patterns, to be conducted by the EFC at the same time as the volumetric sewer rate study. Aqua and the Public Staff shall work together with the EFC to determine the parameters of the study and shall jointly oversee the performance of the study. A report setting forth the data, methodology, assumptions, and findings of the study shall be filed with the Commission within 12 months after the date of this Order.

The EFC met with Aqua personnel and the Public Staff on multiple occasions to discuss the studies and feedback. On March 31, 2016, the final report on Studies of Volumetric Wastewater Rate Structures and a Consumption Adjustment Mechanism for Water Rates of Aqua North Carolina, Inc. prepared by the Environmental Finance Center at the UNC School of Government was filed in Docket No. W-218, Sub 363A. The stated main goals of the studies were to "assess the effect on customer bills and Aqua revenues by implementing a volumetric wastewater rate structure or implementing a consumption adjustment mechanism water rate structures, relative to the status quo." (EFC Report, p 1)

As a general principle, the Public Staff believes any new rate mechanism, such as the consumption adjustment mechanism (CAM), should be authorized by the North Carolina General Assembly before being considered by the Commission for rulemaking. During the 2017-2018 Session, House Bill 752 would have added language to N.C. Gen. Stat. § 62-133 authorizing

customer usage tracking and rate adjustments. House Bill 752 passed out of the House on April 25, 2017 and was referred to the Committee on Rules and Operations of the Senate on April 26, 2017, where it remains to this day. The General Assembly had every opportunity to authorize this mechanism during its existing session, but chose not to do so, even while making other changes to Chapter 62 involving water and wastewater utilities. In light of the General Assembly's decision to not authorize a CAM, the Public Staff does not believe the Commission should step into the gap and create the CAM requested by Aqua.

In addition to believing approval of the CAM absent legislative authorization puts the cart before the horse, the Public Staff has serious concerns about the 1% threshold and the calculation methodology proposed by Aqua. The 1% threshold means that if the average usage is 5,000 gallons per month then the mechanism would be triggered by a variance of 50 gallons per month, which amounts to about 50 seconds per day in the shower (assuming a low flow showerhead of 2.0 gallons per minute multiplied by 50 seconds/day (0.83 minutes/day) multiplied by 30.4 days per month equals 50.5 gallons). An alternative rate mechanism should not be triggered by such an insignificant deviation in normal customer usage.

Additionally, as proposed by the Company in its rate case application and described in Mr. Becker's direct testimony, the utilization of an average usage per bill ignores the short-term revenue gains from growth. The EFC Report recognized that in the short-term, meaning between rate cases, the revenues exceed the costs of growth. (*Id.* at pp 10 and 13) In a year of decreased usage, growth could offset the lower usage revenues. In a year of increased usage, growth would contribute to the Company potentially earning above and beyond the Commission's approved rate of return. The proposed CAM would allow Aqua to increase rates for decreased usage even if customer growth caused the Company to otherwise collect its full revenue requirement. Any mechanism that benefits the Company by ensuring it collects its full revenue requirement should also benefit customers by crediting customers with revenue resulting from increased usage or customer growth.

Q. WHAT ARE THE PRO FORMA REVENUES AT EXISTING AND AQUA'S PROPOSED RATES?

A. The pro forma revenues for the twelve months ended June 30, 2018, are as follows:

Table 13

Rate Entity	Present Rates	Proposed Rates
Aqua Water	$ 34,859,850	$ 37,712,418
Aqua Sewer	$ 14,112,255	$ 14,717,195
Brookwood Water	$ 5,109,303	$ 5,531,141
Fairways Water	$ 1,084,684	$ 1,184,774
Fairways Sewer	$ 1,360,925	$ 2,084,470
Total	$ 56,527,018	$ 61,229,997

The more detailed data supporting this level of revenues is attached as Junis Exhibit 25.

Q. WHAT ARE THE PUBLIC STAFF RECOMMENDED RATES?

A. The service revenue requirement reflected in Public Staff witness Henry's testimony is as follows:

Table 14

Rate Entity	Revenue Requirement
Aqua Water	$ 33,023,284
Aqua Sewer	$ 13,649,924
Brookwood Water	$ 4,894,601
Fairways Water	$ 1,290,101
Fairways Sewer	$ 1,946,333
Total	$ 54,804,243

The rates reflected in Junis Exhibit 25 under Public Staff Proposed Rates will achieve these revenue levels.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

Appendix A

Charles M. Junis

I graduated from North Carolina State University in 2011, earning a Bachelor of Science Degree in Civil Engineering. I have approximately 7 years of engineering experience, and since joining the Public Staff in April 2013, have worked on utility rate case proceedings, new franchise and transfer applications, emergency operations, customer complaints, and other aspects of utility regulation. Prior to joining the Public Staff, I worked for Farnsworth Group, an engineering and architectural consulting firm. I am a licensed Professional Engineer in North Carolina.

(Whereupon, the prefiled supplemental testimony of Charles Junis was copied into the record as if given orally from the stand.)

(Whereupon, Public Staff Junis Supplemental Exhibits 1-6 were identified as premarked and admitted into evidence.)

167

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. W-218, SUB 497

In the Matter of Application of Aqua North Carolina, Inc., 202 MacKenan Court, Cary, North Carolina, 27511, for Authority to Adjust and Increase Rates for Water and Sewer Utility Service in All Service Areas in North Carolina	SUPPLEMENTAL TESTIMONY OF CHARLES JUNIS PUBLIC STAFF – NORTH CAROLINA UTILITIES COMMISSION

AQUA NORTH CAROLINA, INC.
DOCKET NO. W-218, SUB 497

SUPPLEMENTAL TESTIMONY OF CHARLES JUNIS
ON BEHALF OF THE PUBLIC STAFF –
NORTH CAROLINA UTILITIES COMMISSION

September 5, 2018

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND PRESENT POSITION.

A. My name is Charles Junis. My business address is 430 North Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am an engineer with the Water, Sewer, and Telephone Division of the Public Staff – North Carolina Utilities Commission (Public Staff). I am the same Charles Junis who previously filed direct testimony on August 21, 2018, on behalf of the Public Staff in this docket.

Q. DO YOU HAVE ANY CORRECTIONS TO YOUR DIRECT TESTIMONY?

A. Yes, the recommendation starting on page 52, line 10, and ending on page 53, line 5, should read as follows:

3. By even the most conservative assumption of $8.48 per gpd to purchase capacity from the County (the unit price paid in 2018), it was imprudent of the Company to construct the 100,000-gpd WWTP expansion at a cost of **$947,145** in 2016. The Public Staff recommends the Commission reduce the

original cost rate base of the WWTP expansion by **$99,145**, from **$947,145** to $848,000.

Bolding was added to identify the corrected values, no other changes are necessary. Public Staff witness Cooper accurately utilized these corrected values in her schedules filed with her direct testimony.

Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL TESTIMONY?

A. The purpose of my supplemental testimony is to address updates and material changes provided by Aqua North Carolina, Inc. (Aqua or Company) to data impacting calculations supporting my recommendations on the subjects of AMR meters and billing analysis. The information does not change my conclusions or the reasons supporting my recommendations, however, the magnitude of the adjustments I recommend have changed.

For the sake of convenience, my supplemental testimony consists of revised questions and answers in their entirety from my direct testimony on the topics of AMR meters and billing analysis. The following supplemental testimony regarding AMR meters should replace the testimony regarding that topic which starts on page 26, line 19 and ends on page 38, line 19 of my direct testimony. Similarly, the following supplemental testimony regarding billing analysis should replace the testimony regarding that topic which

starts on page 64, line 16 and ends on page 65, line 9 of my direct testimony. Exhibits to my direct testimony which have been revised based on new data or other new information provided by the Company are labeled as supplemental exhibits. All other references to exhibits refer to the original exhibits to my direct testimony.

AMR METERS

Q. PLEASE DESCRIBE THE PUBLIC STAFF'S INVESTIGATION, FINDINGS, AND RECOMMENDATIONS PERTAINING TO THE REASONABLENESS, PRUDENCY, AND COST-EFFECTIVENESS OF WATER METERING TECHNOLOGIES.

A. The stipulation between Aqua and the Public Staff in Docket No. W-218, Sub 363 (Sub 363 Stipulation) stated that "the Public Staff has the right as a matter of law to challenge the reasonableness, prudency, and cost effectiveness of Aqua's investment in AMR-RF meters in future cases." Paragraph No. 15 of the Sub 363 Stipulation.

The Public Staff has investigated Aqua's implementation of water metering technologies but, first, it is important to identify and define the acronyms associated with water metering technologies.

RF: radio frequency, alternative mediums for data transmittance include cellular and wired.

AMR: automated meter reading, typically used to describe drive-by RF meters. The communication is primarily one-way, that is the "meter" sends data to the receiver.

ERT: encoder receiver transmitter or communication module, functions as the radio and antenna for the meter to send data.

AMI: advanced metering infrastructure, typically used to describe fixed point networks with strategically distributed collectors or receivers that are capable of two-way communication with the meter.

Standard meter: the meter reader has to manually read the meter reading and log it on a handheld computer device.

Aqua NC Water: the Aqua North Carolina uniform water rate division.

Aqua has invested $4.039 million in the replacement of 17,441 standard meters with AMR meters and installation of 19,768 ERTs as part of its Meter Replacement Program. The Meter Replacement Program was initiated by Aqua America, Inc. (Aqua America) and implementation began in 2017. From 2013 through 2016, Aqua averaged 569 Aqua NC Water meter replacements per year. In 2017, the Company replaced 15,760 Aqua NC Water meters or an increase of over 2,600%.

The Public Staff requested a complete and detailed cost-benefit analysis in Public Staff Engineering Data Request (EDR) 12. See **Junis Exhibit 3, Response to EDR 12 Q1**. In part, the Company's response states, "Aqua NC considers this part of our company-wide (Aqua America) operationally driven Meter Replacement Program." (Response to EDR 12 Q1) In other words, Aqua America is directing Aqua to implement RF metering technology. In response to a March 2017 Public Staff data request, Aqua states:

> The company-wide program for all other states utilizes the use of a mobile AMI (AMR) (RF) technology. As Aqua NC is the only state in the Aqua America (Aqua) footprint not pervasively using AMR technology, an incremental cost benefit analysis was prepared supporting our conversion from manual read meters to RF in coordination with the meter change out program.

See **Junis Exhibit 4, Response to Mobile AMR Data Request No. 2 Q1a**.

In certain northern states in which Aqua America provides water utility service, some water meters are located inside the customers' homes and there is substantial, both in quantity and duration, snow covering the outdoor meter boxes. AMR meters can be helpful and cost-beneficial in those circumstances; however these conditions are not typical in North Carolina. North Carolina is different from many of the other states in which Aqua America provides water utility service in that a majority, closer to the entirety, of the residential water meters are located outside in meter boxes, near the street or front property line, and visible with the exception of a limited number

of snow covered days. In comparison, electric utility meters are normally located on the side of a customer's house, sometimes inside fences, and a distance away from the street.

In response to EDR 22 Q1, the Company provided a cost-benefit analysis calculating a monthly benefit to customers of $0.11 and with what the Public Staff believes to be significant failings: the assumption that the per meter installation cost is the same for a standard meter and an AMR meter; the incremental nature does not capture the true cost of multiple AMR meters over the 30.30-year depreciation life determined in the 2017 Depreciation Study prepared by Gannett Fleming Valuation and Rate Consultants, LLC, and filed in this docket on June 8, 2018, with the testimony of Company witness John J. Spanos; and no costs, only benefits, are included for developing and deploying programs and services to utilize the additional data available from the read and flag logging capabilities. See **Junis Exhibit 5, Aqua AMR Cost-Benefit.** The AMR meters installed by Aqua have the following noteworthy functionalities:

- When the meter is read, the receiver collects the meter reading at that moment, a history of 40 daily readings (recorded at 12:01 am ET), and any indicators.
- The indicators or flags include tamper, high consumption, and zero consumption.

These functionalities are mitigated by the following facts:

- Onsite readers can observe whether a home appears to be occupied, for sale, or vacant, evidence of meter tampering such as tool marks, signs of extensive lawn and shrub irrigation, and signs of a leak. The meter reader can enter these comments into the handheld meter reading computer and be automatically required to verify and re-enter zero or high readings.
- After implementation of AMR/AMI, the meter is not visually inspected each month and over time the meter box can become covered with dirt and/or vegetation making it difficult and time consuming to locate when a manual verification reading or maintenance is necessitated.
- The 40 day read history is **NOT** accessible by customers.
- The customers have **NOT** been notified that Aqua planned to and is collecting the 40 day read history.
- The Aqua billing system generates an estimated bill for accounts with a high consumption or missed read without providing the customer the indicator or flag. Again, the Company is **NOT** sharing the available information to the customer.

The Public Staff communicated concerns about Aqua's cost-benefit analysis dating back to early 2017. As part of the Public Staff's Mobile AMR Data Request No. 2, the Public Staff sent to Aqua a modified version of Aqua's analysis that resulted in an unfavorable additional cost per customer per month of $0.30, not including any potential costs related to the retirement of Aqua's existing standard meters. Aqua responded by stating in part that the "updated installation price from our national vendor is currently <$45 per meter" and "the install cost has no net impact on the incremental cost to our customers as there may only be a nominal installation difference when an RF versus a standard meter is installed." (**Junis Exhibit 5**) First, the Company had already performed a meter replacement program in the Brookwood Water service area in 2012 and 2013 and were invoiced by an outside contractor specific individual installation costs for the meter, meter interface unit (MIU) radio (comparable to the ERT), and mounting rod by Mueller Service Co. See **Junis Exhibit 6, Sub 363 ADR 55 Q11**[1]. Second, the average Itron installation cost of $69.84 per AMR meter far exceeds $45 and Aqua's previous installation costs of standard meters by an independent contractor. The cost-benefit analyses prepared by Aqua materially overstate the labor costs to replace standard meters.

[1] The invoices provided are an excerpt and representative of the all of the invoices provided in response to Sub 363 ADR 55 Q11.

Itron, Inc., the previously referenced national vendor, manufactures and sells communications equipment and services including the AMR ERTs being purchased by Aqua.

By making a singular conservative adjustment to the Company's cost-benefit analysis, the result is a net cost of $0.01 per month per customer without any realized benefits to the customers. See **Junis Supp. Exhibit 1, Revised Junis Exhibit 7, Aqua Labor Adjusted Cost-Benefit**. The adjustment is to simply decrease the installation labor cost of a standard meter from $71.86 to the still excessive $61.39 that the Company calculated to be its average installation cost utilizing Aqua personnel. See **Junis Supp. Exhibit 2, Revised Junis Exhibit 8, EDR 56 Q2.** The revised exhibit includes Aqua's calculation and the Public Staff's calculations (highlighted in grey). However, Aqua's calculation vastly over quantifies Aqua's labor cost to in-kind replace standard meters. Aqua's installation cost of $61.39 assumes an average duration of one and a half (1.5) hours per meter replacement and the internal labor cost to be $21.21 per hour. However, when conducting a meter replacement project, which would likely be entire subdivisions, the laborer would be traveling from house to house with several minutes, at most, in between. Aqua averaged the hourly labor costs for the following field personnel:

Facility Operator Trainee	Utility Technician Laborer
Facility Operator I	Utility Technician
Facility Operator II	Utility Technician I
Facility Operator III	Utility Technician II
Meter Reader	Utility Technician III
Sr. Meter Reader	

The descriptions from job postings on Aqua America's website indicate each underlined above position's responsibilities include either installation of meters or replacement of inoperable meters. The job descriptions for the Facility Operator group do not include installing or replacing customer water meters. Compiling the Utility Technician Laborer, Utility Technician, Utility Technician I, Meter Reader, and Sr. Meter Reader, the average hourly labor rate is $15.23 compared to the average of $21.21 for all field employees. By utilizing the average internal labor rate of $15.23 per hour and 1.86 standard meter replacements per hour, including the 93% loading for allocated costs the same as Aqua, the average labor installation cost per standard meter replaced is calculated to be $15.87. (Junis Supp. Exhibit 2) This can be compared to the per meter replacement rates quoted of $71.86 by Itron and $61.39 calculated by Aqua.

The Public Staff has calculated an average duration of 0.54 hours or 32 minutes per meter replacement, conservatively based upon discussions with three persons[2] with nearly 100 years of combined experience in the water utility industry, including extensive experience replacing standard water meters in Wake and Johnston Counties. In general terms, each stated that, being generous, it should only take approximately 15 minutes, and as quick as 5 minutes, to replace a standard water meter, including flushing the service line and recording the meter serial number, address, and in and out meter readings. Additional time would be necessary if the meter box, yoke, or other appurtenances required replacement, which the experienced professionals estimated would require about one (1) hour on average.

Adjusting Aqua's cost-benefit analysis for the Company's actual average costs for the meter, installation, and ERT and the Public Staff's standard meter installation cost of $15.87, the analysis results in a $0.65 cost per month per customer for Aqua's AMR deployment. See **Junis Supp. Exhibit 3, Revised Junis Exhibit 9, Updated AMR Cost-Benefit Analysis.**

[2] I personally spoke with Debra Massey, Gary Pierce, and Danny Lassiter. Ms. Massey has approximately 24 years of water utility industry experience while working for Heater and presently EnviroLink. Gary Pierce is retired with over 30 years of experience in the field installing and replacing meters while working for Heater. Danny Lassiter is retired with approximately 45 years of experience installing and replacing meters, then as a supervisor while working for in the water utility industry.

The meters being replaced as part of the program, which are predominantly standard positive displacement meters without batteries, have had an average useful life of 17.63 years per Aqua's response to EDR 40 Q2. This 17.63 year average service life is a 7.37 year or 29% reduction from the former average service life. In response to EDR 12 Q1, Aqua states:

> The overall meter retirements have generally been consistent with past practices as the average service life has changed from 25 years to 24 years. Newer technology could shorten the average service life of the meters, however, due to group depreciation; the remaining life method; and the variability of assets within the entire account, the asset value will be recovered over the remaining life of all assets.
>
> See **Junis Exhibit 3.**

The industry recognizes a 10- to 20-year useful life before degradation of functionally and accuracy necessitate replacement. As part of the Environmental Finance Center's final report on Studies (EFC Report)[3], which is discussed in further detail as part of my recommendations on the proposed Consumption Adjustment Mechanism (CAM), the Public Staff posed a number of questions including:

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[3] The Report to the Public Staff of the North Carolina Utilities Commission and Aqua North Carolina, Inc. on the Studies of Volumetric Wastewater Rate Structures and a Consumption Adjustment Mechanism for Water Rates of Aqua North Carolina, Inc. prepared by the Environmental Finance Center at the UNC School of Government was filed in Docket No. W-218, Sub 363A on March 31, 2016.

https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=a7fd9d58-46ed-425f-9298-c4419f319a1f

12. What is the average change-out period for residential water meters (i.e. 10 years, 15 years, 1 million gallons, etc.) for the more professionally-operated North Carolina government water utilities, such as Raleigh, Durham, OWASA, CMUD, Fayetteville PWC, Greensboro, and Winston-Salem?

See **EFC Report, p 12.**

The EFC Report stated "[m]ost of the utilities use around 15 years, although two use more than 15 years and one uses less than 15." (*Id.*) Additional factors such as flow rate, velocity, water quality, and total volume/mileage can all contribute to the degradation of meter accuracy.

The Public Staff has calculated the average standard meter replacement to cost $54.30. Aqua has a Commission approved meter installation fee of $70 as part of its schedule of rates. The meter cost of $38.43 is the invoiced amount from 2015 when Aqua was still frequently utilizing standard meters for replacements. The cost does not reflect any potential and likely discount through national or statewide buying power (the Company bought approximately 20,000 meters since its last general rate case). The average labor cost was calculated by the Public Staff to be $15.87, as described in earlier portions of my testimony. The total average cost of standard meter replacement would have been $54.30 in comparison to the average cost of a meter replacement completed as part of the Aqua NC Water Meter Replacement Program that was

$206.43, including AMR meter, ERT, Itron installation, and allocated costs. The average cost of a meter replacement completed in the Brookwood/LaGrange service area was $209.66, including AMR meter, ERT, Itron installation, and allocated costs.

On August 28, 2018, Aqua submitted to the Public Staff a supplemental response to the Public Staff's EDR 22 Q1, which was sent by the Public Staff to Aqua on July 6, 2018. The document was prepared by Aqua witness Kopas, and presents the Company's calculation of a net present value (NPV) cost comparison of an AMR meter and a standard manual read meter. See **Junis Supp. Exhibit 4, EDR 22 Q1 Supplemental Response.** Aqua's NPV cost comparison is based on the equipment for an AMR meter costing $70 more than a standard meter, approximately the same amount calculated in Aqua's AMR Cost Benefit Analysis (Junis Exhibit 5). As I stated earlier in my testimony, this calculation is materially incorrect for a number of reasons, the most important of which is that the installation cost for a standard meter is significantly less than for an AMR meter. **Junis Supp. Exhibit 5, Revised Junis Exhibit 10,** shows that the equipment cost for a standard meter alone ($38.43) is $80.27 less than for an AMR meter (meter $57.56 + ERT $61.14 = $118.70). If one accepts all of witness Kopas's assumptions, the breakeven point of the NPV cost comparison is a total cost difference of $87.09. This means that, if the installation cost difference between

an AMR meter and a standard meter is any greater than $6.82, then there is an NPV cost to customers when Aqua contracts for the implementation of AMR meters. Utilizing the $152 cost difference calculated in Junis Supplemental Exhibit 6, the NPV cost comparison results in a lifetime net cost to customers of $95.93. See **Junis Supp. Exhibit 6, PS Modified NPV Cost Comparison**. This calculation utilized identical inputs as Aqua witness Kopas in **Junis Supp. Exhibit 4** with the lone exception being the cost difference described earlier. In addition, the annual revenue requirement for the standard manual read meter is lower than the AMR meter until sometime in year 16.

Aqua proposes to include in its new rates the recovery of AMR meter costs. This is in addition to the AMR meter costs being recovered through Brookwood Water rates approved in Sub 363 Aqua has not implemented benefits to the customers while materially increasing the cost to customers. The installation of AMR meters was imprudent, unreasonable, and not justified by a realistic and comprehensive cost-benefit analysis. The customers should not pay for the increased costs as a result of unreasonable and imprudent decisions by Aqua management. I recommend reductions to rate base for Aqua NC Water and Brookwood in the amounts of $2,834,632 and $1,399,522, respectively. The calculations are presented in greater detail in **Junis Supp. Exhibit 5**.

In addition, I recommend the disallowance of any future increase to the depreciation rate of Water Account 334.00 Meters and Meter Installations due to the early retirements that resulted from Aqua's Meter Replacement Program. This is a potential additional cost not considered by the cost-benefit analyses and a result of the group accounting and depreciation methodologies. This is dissimilar to the cases made by Duke Energy Progress and Duke Energy Carolinas, which claimed the retired AMR assets resulting from the implementation of AMI were an extraordinary expenditure and should be amortized over a period of time shorter than the remaining life.

BILLING ANALYSIS

Q. PLEASE BRIEFLY SUMMARIZE THE NEW INFORMATION IMPACTING THE BILLING ANALYSIS, SPECIFICALLY THE PRO FORMA REVENUES AND RECOMMENDED RATES.

A. My original billing analysis was an evaluation of monthly bills sent to customers during the test year (October 2016 through September 2017) filed by Aqua in its rate increase application. The Company subsequently updated the billing data through June 30, 2018. I then compiled the end of period (EOP) bills issued in June 2018 and annualized the total bill quantity by multiplying the EOP bills by 12 months. The billing analysis was reviewed by Aqua. After my direct testimony was filed on August 21, 2018, the Company raised

concerns that the June 2018 bills were overstated and exceeded the actual number of customers during the month. I have reviewed the customer billing data, made appropriate pro forma adjustments, and prepared a revised billing analysis.

The identification of "**Junis Exhibit 25**" on page 59, line 15 of my direct testimony should be revised to "**Junis Supp. Exhibit 7, Revised Junis Exhibit 25**" and the following supplemental testimony regarding billing analysis should replace the testimony regarding that topic which starts on page 64, line 16 and ends on page 65, line 9 of my direct testimony.

Q. HAS AQUA HAD AN OPPORTUNITY TO REVIEW YOUR BILLING ANALYSIS?

A. Yes.

Q. HAS AQUA AGREED TO YOUR BILLING ANALYSIS?

A. Yes, Aqua has agreed to the customer counts, consumption quantities, and the pro forma revenues at existing and Aqua's proposed rates.

Q. WHAT ARE THE PRO FORMA REVENUES AT EXISTING AND AQUA'S PROPOSED RATES?

A. The pro forma revenues for the twelve months ended June 30, 2018, are as follows:

Table 13

Rate Entity	Present Rates	Proposed Rates
Aqua Water	$ 34,566,184	$ 37,397,350
Aqua Sewer	$ 13,459,559	$ 14,047,785
Brookwood Water	$ 5,025,605	$ 5,439,944
Fairways Water	$ 1,084,684	$ 1,184,774
Fairways Sewer	$ 1,360,925	$ 2,084,470
Total	$ 55,496,957	$ 60,154,323

The more detailed data supporting this level of revenues is attached as **Junis Supp. Exhibit 7, Revised Junis Exhibit 25.**

Q. WHAT ARE THE PUBLIC STAFF RECOMMENDED RATES?

A. The service revenue requirement reflected in Public Staff witness Henry's testimony is as follows:

Table 14

Rate Entity	Revenue Requirement
Aqua NC Water	$ 33,407,091
Aqua NC Sewer	$ 13,676,045
Brookwood Water	$ 5,188,567
Fairways Water	$ 1,032,958
Fairways Sewer	$ 1,996,420
Total	$ 55,301,081

The rates reflected in **Junis Supp. Exhibit 7** under Public Staff Proposed Rates will achieve these revenue levels.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

(Whereupon, Public Staff Junis Redirect Exhibits 1-6 were admitted into evidence.)

(Whereupon, Aqua Junis Cross Examination Exhibits 1-6 were admitted into evidence.)

COMMISSIONER BROWN-BLAND: Ms. Culpepper, quickly.

MS. CULPEPPER: We need a few minutes to get our cross exhibits and everything.

COMMISSIONER BROWN-BLAND: Quickly. Thank you. Mr. Junis, I think you're excused.

THE WITNESS: Thank you very much. It was a pleasure, folks.

(Witness excused.)

COMMISSIONER BROWN-BLAND: At ease.

(Recess taken from 5:56 p.m. to 5:58 p.m.)

COMMISSIONER BROWN-BLAND: All right. Then Mr. Kopas, you're still under oath.

ROBERT KOPAS; Having been previously sworn, Testified as follows:

DIRECT EXAMINATION BY MR. DWIGHT ALLEN:

Q Good afternoon, Mr. Kopas. Mr. Kopas, did you have occasion to prepare and cause to be filed with this

Commission on or about September 4, 2018 certain rebuttal testimony consisting of nine pages?

A Yes, I did.

Q Are there any additions or corrections you wish to make to that testimony?

A No, there are not.

Q If you were asked those same questions today from the witness stand, would your answers be the same as they appear in that prefiled testimony?

A Yes, they would.

Q And are they true and correct, to the best of your knowledge and belief?

A Yes, they are.

Q Have you prepared a summary?

A Yes, I have.

Q Could you give that summary now?

A I will do that. The purpose of my rebuttal testimony is to address Public Staff's accounting adjustments related to excess deferred income tax, a 30 percent reduction in the amount of incentive compensation paid to Aqua North Carolina, a 50 percent reduction to executive compensation, and a 50 percent reduction of compensation and expenses paid to the Aqua Board of Directors.

Public Staff recommends that the federal unprotected excess deferred income tax, EDIT, should be flowed back to ratepayers and amortized over a three-year period. As more fully explained in my rebuttal testimony, I recommend that since over 90 percent of Aqua's unprotected EDIT is related to repair tax deductions, it is more appropriate to treat this amortization over a 20-year period which more closely aligns with the amortization of the protected EDIT.

My rebuttal testimony also addresses certain adjustments made to executive compensation for the top five executive officers, and more generally the compensation paid to Aqua North Carolina employees as part of their total compensation package. I disagree with the Public Staff's adjustments, as executive compensation and incentive compensation are part of the Company's overall cost of service. In addition, the Public Staff makes an adjustment to the fee Aqua compensates our Board of Directors for their service. Again, I believe this is part of the Company's overall cost of service and part of normal operations.

Q Does that conclude your summary?

A Yes, it does.

MR. DWIGHT ALLEN: We would ask that his

testimony be copied into the record as if given orally from the witness stand.

COMMISSIONER BROWN-BLAND: The motion is allowed, and Mr. Kopas' rebuttal testimony is received into evidence.

(Whereupon, the prefiled rebuttal testimony of Robert Kopas was copied into the record as if given orally from the stand.)

191

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. W-218, SUB 497

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

IN THE MATTER OF
APPLICATION BY AQUA NORTH CAROLINA, INC.,
202 MACKENAN COURT, CARY, NORTH CAROLINA 27511
FOR AUTHORITY TO ADJUST AND INCREASE RATES FOR WATER
AND SEWER UTILITY SERVICE IN ALL SERVICE AREAS IN
NORTH CAROLINA

REBUTTAL TESTIMONY OF
ROBERT A. KOPAS
ON BEHALF OF
AQUA NORTH CAROLINA, INC.

September 4, 2018

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Robert A. Kopas. My business address is 6650 South Avenue, Boardman, OH 44512.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. Until I retired on July 1, 2018, I was employed by Aqua Services, Inc. ("Aqua Services") as Regional Controller. In that position, I provided financial supervision and guidance to Aqua Ohio, Inc. as well as to Aqua North Carolina, Inc., Aqua Indiana, Inc., Aqua Texas Inc., Aqua Illinois, Inc., and Aqua Virginia, Inc. Subsequent to my retirement, I agreed to stay on as a consultant until the conclusion of these proceedings.

Q. PLEASE BRIEFLY DESCRIBE YOUR BUSINESS EXPERIENCE.

A. I joined the Company in 1984 as an Accountant for Consumers Pennsylvania Water Company---Shenango Valley Division. I served as Vice-President of Finance for all of Consumers Pennsylvania's Divisions from 1988 until 1998. In October of 1998, I transferred to Consumers Ohio Water Company and served as Vice President of Finance until assuming my most recent position as Regional Controller for Aqua Midwest and Southern Regions. Prior to joining Aqua, I was employed by General American Transportation Corporation where I held various accounting positions, including Accounting Supervisor and Cost Analyst.

Q. PLEASE DISCUSS YOUR EDUCATIONAL BACKGROUND.

A. I am a graduate of Pennsylvania State University with a Bachelor of Science degree in Finance. I later attended Youngstown State University part time

to secure additional accounting credit hours. I am a member of the American Institute of Certified Public Accountants and I am registered in Ohio as a Certified Public Accountant.

Q. HAVE YOU EVER TESTIFIED BEFORE A REGULATORY COMMISSION BEFORE?

A. I have previously appeared and presented testimony before the North Carolina Utilities Commission ("Commission" or "NCUC") in Docket No. W-218, Sub 363. I have also appeared and presented testimony in numerous cases before the Public Utility Commission of Ohio and the Pennsylvania Public Utility Commission. I have also appeared and presented testimony in two cases before the Indiana Utility Regulatory Commission.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to provide rebuttal evidence for certain adjustments in the testimony filed by Public Staff witness Windley E. Henry on August 21, 2018.

Q. WHAT ADJUSTMENTS PROPOSED IN THE TESTIMONY FILED BY PUBLIC STAFF WITNESSES ON AUGUST 21, 2018, WILL YOU ADDRESS?

A. I will address Public Staff accounting adjustments related to excess deferred federal income tax, a 30% reduction in the amount of incentive compensation paid to Aqua North Carolina, Inc. ("Aqua" or "Company") employees, a 50% reduction to executive compensation, and a 50% reduction of the compensation and expenses paid to the Aqua America

Board of Directors.

Q. DO YOU AGREE WITH MR. HENRY'S RECOMMENDATION THAT FEDERAL UNPROTECTED EXCESS DEFERRED INCOME TAXES SHOULD BE FLOWED BACK TO RATEPAYERS AND AMORTIZED OVER A 3-YEAR PERIOD?

A. No, I do not agree with the federal 3-year period. Since 2012, Aqua, in filing its tax returns, has utilized a deduction from taxable income called a repair tax deduction. This tax method essentially allows a 100% deduction for tax purposes of certain qualifying expenditures that are capital additions on Aqua's books. This type of deduction is treated exactly the same on the Company's books as any normalized depreciation deduction in that deferred taxes are recorded for the future tax liability and deducted from rate base for purposes of determining a revenue requirement in a rate case. While there is no disputing the fact that the repair tax portion of the excess deferred income tax ("EDIT") is unprotected, since it appears in a different section of the Internal Revenue code that protects the accelerated depreciation through normalization, it is treated no different than other property related accelerated depreciation that is protected by normalization. Since over 90% of Aqua's unprotected EDIT is related to repair tax deductions, it is more appropriate to treat this amortization over a 20-year period which more closely aligns with the amortization of the protected EDIT.

Q. HAS THE COMPANY HAD DISCUSSIONS WITH THE PUBLIC STAFF TO DISCUSS ALTERNATIVE METHODS OR AMORTIZATION PERIOD FOR TREATMENT OF UNPROTECTED FEDERAL EDIT?

A. Yes. Aqua and the Public Staff have had numerous discussions to try and reach agreement on a method that addresses the cash flow and other concerns of the Company while protecting the interest of the Company's customers. I am hopeful that, as discussions are ongoing, we will reach an agreement on a method and amortization period for federal EDIT for presentation to all parties and the Commission for settlement approval.

Q. DO YOU AGREE WITH THE PUBLIC STAFF'S PROPOSED ACCOUNTING ADJUSTMENTS TO ACCUMULATED DEFERRED INCOME TAXES AND AMORTIZED EDIT?

A. No. At this point, Aqua is not in agreement with the Public Staff on these issues. We are continuing to have discussions to try and reach agreement. I am hopeful that, as discussions are ongoing, we will reach an agreement on accumulated deferred income taxes and amortized EDIT for presentation to all parties and the Commission for settlement approval.

Q. PLEASE EXPLAIN WITNESS HENRY'S ADJUSTMENT TO EXECUTIVE COMPENSATION SET FORTH ON PAGES 9-12 OF HIS TESTIMONY?

A. Witness Henry recommends adjusting Executive Compensation of the top five executive officers of Aqua America by removing 50% of executive compensation from Aqua's cost of service.

Q. DO YOU DISAGREE WITH WITNESS HENRY'S ADJUSTMENT TO REMOVE 50% OF AQUA AMERICA EXECUTIVE COMPENSATION?

A. Yes, for the reasons discussed below.

Q. PLEASE EXPLAIN WHY YOU DO NOT BELIEVE THAT THE REASONS ARTICULATED BY WITNESS HENRY MERIT A 50% REDUCTION IN AQUA AMERICA EXECUTIVE COMPENSATION CHARGED TO EXPENSE.

A. Aqua America sets compensation levels for its executives to attract and retain qualified personnel and to remain competitive in the market. Witness Henry states that "the Company's executive officers are obligated to direct their efforts not only to minimizing the costs and maximizing the reliability of Aqua's service to customers, but also to maximizing the Company's earnings and the value of its shares."[1] The efforts of Aqua America's executives ultimately benefit ratepayers, as Witness Henry stated, through controlling costs and managing a strong overall company which allows it to attract capital at lower costs. Witness Henry also states that Aqua America Officers have fiduciary duties of care and loyalty

[1] Testimony of Windley E. Henry on Behalf of the Public Staff of the North Carolina Utilities Commission at page 11 (August 21, 2018).

to shareholders but not to customers. That is simply not the entire picture. Aqua America Officers have a responsibility not only to all investors in the Company, which include both shareholders and bondholders, but also to employees and most of all--to customers. Aqua is in a highly-regulated business both on the environmental and financial side. Aqua America Officers are charged with the responsibility of meeting these standards of providing safe and reliable water and wastewater service to customers served by Aqua. Only then is Aqua granted an opportunity to earn a return on the dollars invested by shareholders. In my opinion, the ability of Aqua as a public utility to meet the needs of its customers is the highest priority of all Company employees and only then will the financial returns be achieved to attract both debt and equity capital needed in the business. Executive compensation is a necessary part of the Company's overall cost of service to meet the needs of its customers, and a reduction of 50% to Aqua America executive compensation is not warranted.

Q. PLEASE EXPLAIN HOW THE COMMISSION TREATED THE EXECUTIVE COMPENSATION ISSUE IN THE COMPANY'S 2011 RATE CASE IN DOCKET NO. W-218, SUB 319.

A. This type of proposed adjustment is not new to Aqua. In Aqua's 2011 rate case,[2] the Public Staff proposed an adjustment to remove

[2] See *In the Matter of Application by Aqua North Carolina, Inc., 202 MacKenan Court, Cary, North Carolina 27511, for Authority to Increase Rates for Water and Sewer Utility Service in All of its*

50% of executive compensation for the top four executive officers of Aqua America. The Commission, in that proceeding, stated that the Public Staff's proposed adjustment to remove 50% of executive compensation for the top four Aqua America executive officers was not reasonable based upon the factors articulated by the Public Staff. Instead, the Commission ordered that an adjustment of 25% to the executive compensation expense item was reasonable in that case. If the Commission concludes that an accounting adjustment to executive compensation is justified in this case, Aqua, as an alternative proposal, requests that the percentage disallowance be set at no greater than the 25% number utilized in the Sub 319 docket.

Q. DO YOU DISAGREE WITH WITNESS HENRY THAT 30% OF BONUSES PAID TO NORTH CAROLINA SUPERVISORY EMPLOYEES SHOULD BE ALLOCATED TO SHAREHOLDERS?

A. Yes. For the reasons set forth above concerning executive compensation, the short-term incentive ("STI") is part of the total compensation paid to attract and retain qualified supervisory employees at Aqua. This financial metric reinforces to employees that it is their responsibility to serve the customers in a prudent and efficient manner. The Company's ability to provide reliable service to its customers is directly related to its financial viability and linking

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Service Areas in North Carolina, Docket No. W-218, Sub 319, Order Granting Partial Rate Increase at 52 (Nov. 3, 2011).

a portion of those employees' compensation to a financial target encourages employees to achieve customer-based objectives in a cost-efficient manner. The STI (or supervisory bonus) program for Aqua has been in place without any ratemaking adjustment having been proposed or made in the Company's last two rate case proceedings.

Q. DO YOU AGREE THAT AQUA AMERICA BOARD OF DIRECTORS' FEES SHOULD BE SIMILARLY ADJUSTED AS SET FORTH IN WITNESS HENRY'S TESTIMONY ON PAGES 14-15?

A. No. For the reasons set forth above regarding executive compensation, the Company requests that the Commission also reject the Public Staff's position on this issue. Board fees have been a part of the Company's revenue requirement in the past and removing a portion from cost of service represents a departure from past precedent. At most, the Commission should exclude a maximum of only 25% of those fees from the Company's cost of service, consistent with the disallowance percentage of 25% used in the Company's 2011 Sub 319 rate case for executive compensation.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

MR. DWIGHT ALLEN: With that, he's available for cross examination.

COMMISSIONER BROWN-BLAND: All right. Ms. Force?

MS. FORCE: No questions.

COMMISSIONER BROWN-BLAND: Mr. Grantmyre.

CROSS EXAMINATION BY MR. GRANTMYRE:

Q Mr. Kopas, first, I'd like to identify the two exhibits. We gave you two exhibits.

MR. GRANTMYRE: The one that says Aqua America Board of Governors, we request that be identified as Exhibit 1. And the second, which is Schedule 14A Proxy Statement Securities and Exchange, that would be Public Staff Kopas Rebuttal Cross Exhibit 2.

COMMISSIONER BROWN-BLAND: They will be so identified.

(Whereupon, Public Staff Kopas Rebuttal Cross Exhibits 1-2 were marked for identification.)

Q Now, you're retired from Aqua America now, correct?

A Yes, sir.

Q Okay. And do you recognize this document that says Aqua America, Inc. Board of Governors Corporate

Governance Guidelines?

A Actually, I haven't seen it before, but I know what it is.

Q Okay. Will you accept, subject to check, that this was downloaded from the Aqua America website?

A Absolutely.

Q Now, on the first page could you please read the highlighted four lines?

A "The following corporate governance guidelines will provide the principles by which the Board of Directors, called the Board, of Aqua America, the Corporation, will organize and execute its responsibilities, along with the requirements of the Corporation's Articles of Incorporation's bylaws and laws and regulations governing the Corporation and the Board."

Q Now, I refer you to page 6 under Roman Numeral II, Responsibilities of the Board. Number 1, could you please read into the record what it says there?

A "It is the responsibility of a Board to provide guidance and direction on the Corporation's general business goals and strategy and to provide general oversight of and direction to management so that affairs of the Corporation are conducted in the long-term interest of all its shareholders."

Q Now, also, I direct you to page 8, paragraph 10. Can you please read the highlighted portions? You're welcome to read the rest, but I'm just asking the highlighted portions.

A "The Executive Compensation Committee will periodically review the compensation package for directors and make recommendations to the Board for any changes. Such reviews shall take place annually. The Board shall make changes in its directors' compensation and upon recommendations by the Executive Compensation Committee and after discussion and approval by the Board. Both the Executive Compensation Committee and the Board shall be guided by the following principles: Compensation" -- should be -- "should fairly pay directors for work required. Compensation should align directors' interests with the long-term interests of shareholders, while not calling into question their objectivity, and the structure of the compensation should be simple, transparent, and easy for shareholders to understand."

Q Now, you do admit that it says in the interest of the long-term interests of shareholders, correct?

A I do.

Q Now, will you accept, subject to check -- I

know you haven't read this document -- that nowhere, not even once in this document, does the word customer appear?

A Subject to check, yes.

Q Okay. Now, moving on to the proxy statement, you're a stockholder; is that correct?

A Yes, I am.

Q And as such, you get proxy statements every year, correct?

A I do.

Q And I'm assuming you read at least parts of it.

A I have, yes.

Q Okay. And will you accept that this is the second page or really the third page, it's double sided, it's the proxy statement for the 2018 meeting of shareholders?

A Yes.

Q Now, I refer you to page 17 on executive compensation. Now, not making you read what I've highlighted, but you admit that the annual cash compensation at least listed for each independent director is $80,000?

A Yes, yes.

Q And below that list, if you're a chairman of a

committee, you get more cash compensation?

A Yes.

Q And also a stock grant equal to $80,000 in value?

A That's correct.

Q And that's each independent director would get that?

A Yes.

Q Now, I refer you to page 25. Now, in the middle of the page it's not highlighted, but it says objectives of our compensation program, correct?

A Yes.

Q And down below, could you please read into the record the highlighted portions?

A "Align interests of main executive officers and shareholders. We supplement our pay for performance program with a number of compensation policies intended to align the interests of management and our shareholders. The following are several key features of our executive compensation program."

Q Now, moving on to page 27, the highlighted portions in the middle of the page where it says Equity Incentives, will you please read that box next to it, at least the highlighted portions? You're welcome to read

the entire box if you want.

A "Designed to reward named executive officers for enhancing our financial health, which also benefits our customers. Improving our long-term performance from both revenue increases and cost control and achieving increases in the Company's equity and in absolute shareholder value and shareholder value relative to peer companies, as well as helping to retain executives due to the long-term nature of these incentives."

Q Now, on page 28, that lists the components of compensation paid to executive officers in 2017?

A Yes.

Q And it has under Annual Cash Incentive, which is the second box down, under Compensation Objective, can you read what it says?

A "Motivating executives to focus on achievement of our annual business objectives."

Q Now, the next box down is Long-Term Equity Incentive Awards, and it lists three things, restricted stock units, performance shares, and options. Can you read into the record the compensation objective that is the third column over for each of those for the first restricted stock units.

A Yes. "Align executive interest with

shareholder interests; retain key executives. Align executive interests with shareholder interests; create a strong financial incentive for achieving or exceeding long-term performance goals. Align executive interests with shareholder interests; through performance-based nature, provide strong incentives to achieve" company -- excuse me -- "core company goals."

Q Now, on page 30 at the top line, could you please read into the record about "We increased our dividend"?

A "We increased our dividend 7 percent in 2017..."

Q Now, I refer you to page 32 under Short-Term Incentive Awards. Could you please read the highlighted portion?

A "The annual cash incentive awards under the Annual Cash Incentive Compensation Plan, (the Annual Plan), are intended to motivate management to focus on the achievement of annual corporate and individual objectives that would, among other things, improve the level of service to our customers, control the cost of service, and enhance our financial performance."

Q And on the next page, page 33, could you please read the highlighted portion?

A "The annual plan aligns the Company's goals with payouts dependent upon achievement of certain performance objectives over a one-year period. The tables and the narrative below in 2017 Annual Cash Incentive Award Metrics."

Q And for the 60 percent metric weight, it says financial to metric, and what is the metric component and weight? The earnings per share. Do you agree that earnings per share --

A Yeah.

Q -- is 60 percent on this chart?

A I agree. It's highlighted, too.

Q Will you accept, subject to check -- I highlighted it and not the -- okay. Now, on page 35 can you please read what's highlighted? And this is still short-term incentives.

A "Based on the above described factors, the following table shows the 2017 performance of the Company compared to the target set in the Annual Plan."

Q And the financial equity Aqua earnings per share?

A Yeah. Aqua earnings per share, adjusted actual, $1.37. Final achievement, 66 percent.

Q So the weight was 60, so they really got 110

percent on that?

A That's what's marked, yes.

Q Okay. And you are a CPA, so this comes easy.

A Yes, it does.

Q Okay. Now, on page 36, can you please read -- will you accept -- I don't want you to read all this -- that these are the cash incentive awards for the five executive officers, the box at the top?

A Yes. That's what it says.

Q And will you accept that each of them went substantially over the target cash incentive?

A Yes.

Q Now, the next line is Long-Term Equity Incentive Awards. Can you please read the highlighted at least till the end of the highlighting for me into the record?

A "Our use of equity incentive awards are intended to reward our named executive officers for (1) enhancing the Company's financial health, which also benefits or customers; (2) improving our long-term performance through both revenue increases and cost control; and (3) achieving increases in the Company's equity and shareholder value, as well as helping to retain such executives due to the longer-term nature of

these awards. Under the Plan, the Compensation Committee and the Board of Directors may grant stock options, dividend equivalents, performance-based or service-based stock units and stock awards, stock appreciation rights, and other stock-based awards to officers, directors, key employees, and key consultants of the Company and its subsidiaries who are in a position to contribute materially for the successful operation of our business."

Q And on page 37, we've highlighted Performance Share Awards, correct?

A Yes.

Q And could you read the highlighted portion that begins towards the middle of the page with the words "The performance goals"?

A "The performance goals to be achieved under the PSU awards" --

Q And that would be the performance share awards?

A Yes.

Q Performance share units?

A Yes.

Q Okay. Please proceed.

A "The performance goals to be achieved under the PSU awards have been based on the following performance goals, with the weighting of each goal assessed each

year. The Company's total shareholder return at the end of the performance period as compared to the TSR of other large investor-owned water companies, American Water Works Company," American States, Connecticut Water, Cal Water Service Company, Middlesex Water Company, and SJW Corporation. "The Company's TSR compared to the TSR for the companies in the S&P Midcap Utilities Index, Appendix A; The achievement of maintaining Operating and Maintenance expenses within the Company's regulated operations over the performance period; and, The achievement of a three-year cumulative internal earnings before taxes in non-Aqua Pennsylvania subsidiaries."

Q Now, with respect to total shareholder return, you would agree that that is the dividends paid plus the increase or decrease in Aqua's stock price in the New York Stock Exchange; is that correct?

A That's how I would define it, yes.

Q Now, on page -- and we are getting to the end, so -- on page 38, could you please read the highlighted at the top of the box?

A "The Company's TSR was ranked 7th among the companies in the S&P Midcap 400 Utilities Index."

Q And the payout percent was --towards the second column -- 127.78 percent?

A Yes.

Q And now if we could go to page 41 on Stock Options. Could you please read that highlighted first sentence?

A "Stock Options. In 2017, the Compensation Committee added performance-based stock options to the grants to the named executive officers. The Compensation Committee believes that the award of stock options, when paired with the performance of service-based stock awards, completely aligns the interests of named executive officers with those of the shareholders."

Q And could you read the next, down towards the middle of -- the bottom of the middle that starts with "The Compensation Committee"?

A "The Compensation Committee believes that by providing the named executive officers with the ability to earn stock options, the named executive officers' interests are aligned with the shareholders' interests as the value of the stock option is a function of the price of the Company's stock. In addition, stock options provide the use of an additional performance metric for the earning of long-term equity compensation."

Q And then we get into Restricted Share Awards. Could you please read what they have at the bottom of

page 41, which continues to the top of 42?

A Yes. "The restricted shares to the Chief Executive Officer vest 100% after three years, with vesting subject to continued service with the Company and the Company's achievement of at least an adjusted return on equity equal to 150 basis points below return on equity granted by the Public Utility Commission during the Company's Pennsylvania's subsidiary's last rate proceeding. The return on equity shall be calculated in the same manner as it is calculated for the purposes of determining the return on equity required for the vesting of the stock options."

Q Now, I turn you to page 46.

A Okay.

Q And these five positions are the positions that the Public Staff used to remove the five executive salaries and benefits and bonuses; is that correct?

A I guess I only see three. I see the President, the Chief Financial Officer --

Q Mr. Fox, Chief Operating Officer.

A Oh, you just don't have them highlighted. I gotcha.

Q Oh, I'm sorry.

A Yeah. Okay. Yes. Mr. Fox, Mr. Schuler, and

Mr. Luning. Those are the five, yes.

Q And the President's total compensation in the top right-hand corner for 2017 was $4.3 million dollars?

A That's correct.

Q And if we go down two lines to 2015, it was 2.1 million; is that correct?

A Yes.

Q And Mr. Smeltzer, the Chief Financial Officer, for 2017 was $1.65 million; is that correct?

A That's correct.

Q Now, the Public Staff -- this is the last question. The Public Staff asked the Company to provide job descriptions for these five executive offices. Are you aware of that?

A Not particularly, no.

Q And are you aware the response of the Company was there are no formal job descriptions for these five people, and all they gave us was the biographical sketch showing where they went to college and whatever?

A Yeah. I think they probably did that because the nature of the positions are pretty self-explanatory. I mean, a chief financial officer is a chief financial officer. A CEO is a CEO.

Q But the strategy in corporate development, you

have migrated or Aqua has, America, into nonregulated activities, haven't they?

A Currently or in the past?

Q In the past, and I don't know what currently is.

A Yeah. They have in the past. They pretty much are out of the business.

Q Okay.

MR. GRANTMYRE: Thank you. I have no further questions.

MR. DWIGHT ALLEN: Just one question.

REDIRECT EXAMINATION BY MR. DWIGHT ALLEN:

Q Mr. Kopas, if a corporation is unable to attract shareholders, what happens to its customers?

A The customers will ultimately suffer because it will be in -- the Company won't have money to invest in the systems.

Q May not even be able to operate. That would be true, correct?

A That's correct.

MR. DWIGHT ALLEN: I have no further questions, but as a matter of personal privilege, on behalf of Aqua North Carolina and Aqua America, we'd like to thank you for your service, and we are so pleased that your last

act of service for the Company was in North Carolina.

THE WITNESS: Thank you.

COMMISSIONER BROWN-BLAND: You're not out that easy, most likely, so any questions from the Commission?

(No response.)

COMMISSIONER BROWN-BLAND: They just want to get out. All right. Mr. Kopas, again, congratulations on your career. And we already received his testimony, so you're excused.

THE WITNESS: Thank you, and thank you for extending the time a little bit.

(Witness excused.)

MR. GRANTMYRE: We would move that our cross examination exhibits be entered into evidence.

COMMISSIONER BROWN-BLAND: That motion will be allowed. Cross Examination Exhibits Rebuttal Number 1 and 2.

(Whereupon, Public Staff Kopas Rebuttal Cross Exhibits 1-2 were admitted into evidence.)

MS. CULPEPPER: As a procedural matter, we would like inquire as to Aqua's order of witnesses for Friday, they've moved around a lot and -- to prepare us.

MS. SANFORD: They have, and I will let you

know tonight.

MS. CULPEPPER: Okay. Thank you.

COMMISSIONER BROWN-BLAND: All right. We are recessed until 9:00 a.m. Friday morning.

(The hearing was adjourned, to be reconvened on Friday, September 21, 2018 at 9:00 a.m.)

STATE OF NORTH CAROLINA

COUNTY OF WAKE

C E R T I F I C A T E

I, Linda S. Garrett, Notary Public/Court Reporter, do hereby certify that the foregoing hearing before the North Carolina Utilities Commission in Docket No. W-218, Sub 497, was taken and transcribed under my supervision; and that the foregoing pages constitute a true and accurate transcript of said Hearing.

I do further certify that I am not of counsel for, or in the employment of either of the parties to this action, nor am I interested in the results of this action.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 24th day of September, 2018.

Linda S. Garrett

Linda S. Garrett, CCR
Notary Public No. 19971700150