



**NORTH CAROLINA
PUBLIC STAFF
UTILITIES COMMISSION**

May 26, 2020

Ms. Kimberley A. Campbell, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300

Re: Docket No. W-218, Sub 526 – Application for General Rate Increase

Dear Ms. Campbell:

In connection with the above-referenced dockets, I transmit herewith for filing on behalf of the Public Staff the testimony of D. Michael Franklin, Utilities Engineer, Water, Sewer, and Telephone Division.

By copy of this letter, we are forwarding copies to all parties of record.

Sincerely,

/s/ Megan Jost
Staff Attorney
megan.jost@psncuc.nc.gov

MJ/cia

Attachment(s)

Executive Director
(919) 733-2435

Communications
(919) 733-5610

Economic Research
(919) 733-2267

Legal
(919) 733-6110

Transportation
(919) 733-7766

Accounting
(919) 733-4279

Consumer Services
(919) 733-9277

Electric
(919) 733-2267

Natural Gas
(919) 733-4326

Water
(919) 733-5610

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May 26 2020

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. W-218, SUB 526

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 Its Service)
Areas in North Carolina)

TESTIMONY OF
D. MICHAEL FRANKLIN
PUBLIC STAFF – NORTH
CAROLINA UTILITIES
COMMISSION

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. W-218, SUB 526

Testimony of D. Michael Franklin

On Behalf of the Public Staff

North Carolina Utilities Commission

May 26, 2020

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

3 A. My name is D. Michael Franklin. My business address is 430 North
4 Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am an
5 Engineer with the Water, Sewer and Telephone Division of the Public
6 Staff – North Carolina Utilities Commission (Public Staff).

7 **Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.**

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

9 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

10 A. The purpose of my testimony is to provide the North Carolina Utilities
11 Commission (Commission) the results of my review of specific areas
12 of the application filed by Aqua North Carolina, Inc. (Aqua or
13 Company), on December 31, 2019, in Docket No. W-218, Sub 526,

1 seeking authority to increase rates for water and sewer utility service
2 in all of its service areas in North Carolina.

3 **Q HAVE YOU RECOMMENDED ANY ADJUSTMENTS TO**
4 **EXPENSES RELATED TO AQUA'S WATER AND WASTEWATER**
5 **OPERATIONS?**

6 A. I have not recommended any adjustments to the expenses I
7 reviewed. However, I disagree with an increase Aqua proposes in
8 the Item 18 adjustment for purchased wastewater. The results of my
9 review are summarized below.

10 **CHEMICALS EXPENSES**

11 I reviewed Aqua's expenses for chemicals for both its water and
12 wastewater operations. Aqua proposes a pro forma adjustment to
13 update the pricing for five significant chemicals to apply the most
14 recent price to the volume for the entire test year, which is the 12-
15 month period ending September 30, 2019.

16 Based on Aqua's response to Public Staff Data Request No. 5, the
17 expense amounts were reviewed to determine whether the pro forma
18 adjusted amounts included in the Company's application reflect the
19 most recent chemicals pricing. Additional pricing was verified using the
20 invoices provided in Aqua's response to Public Staff Data Request No.
21 48. Where chemicals invoices were not provided, the most recent
22 chemicals cost based on per book amounts was used.

1 Based on my review, the Public Staff agrees with the following total
2 chemicals expenses included in Aqua's application:

| | <u>Per Books</u> | <u>Pro Forma Adjustment</u> | <u>Total Expense</u> |
|-------------------|------------------|---------------------------------|--------------------------|
| 3 ANC Water | \$500,927 | \$(40,097) | \$460,830 |
| 4 ANC Sewer | \$539,657 | \$(19,068) | \$520,589 |
| 5 Brookwood Water | \$310,642 | \$(13,839) | \$296,803 |
| 6 Fairways Water | \$ 23,928 | \$ 187 | \$ 24,115 |
| 7 Fairways Sewer | \$ 28,656 | \$ (131) | \$ 28,526 |

10 Any necessary adjustments for growth and consumption are being
11 made by Public Staff witness Windley Henry.

12 **PURCHASED POWER**

13 I reviewed Aqua's expenses for purchased power for all Aqua rate
14 entities. In response to Public Staff Data Request No. 3, Aqua provided
15 detailed information on the monthly kilowatt hours billed and the
16 corresponding cost amounts. In addition to reviewing this information,
17 I compared Aqua's per book expenses to invoices provided in
18 response to Public Staff Data Request No. 112. Aqua did not
19 propose any pro forma adjustments to the purchased power expense
20 for the test year.

21 Aqua filed a purchased power expense update on April 21, 2020. In
22 the update, Aqua requested an additional Item 18 adjustment to update
23 the purchased power expense to the actuals/per books amounts for

1 the 12-month period ended March 31, 2020, and included fuel for
2 power production expenses. Fuel for power production expenses are
3 addressed later in my testimony.

4 Per the Company's application, the total test year purchased power
5 expense was \$3,752,175. Updating the test year to end March 31,
6 2020, I calculated a reasonable purchased power expense level of
7 \$3,878,491 on a consolidated basis. These amounts are for
8 purchased power expenses with general ledger codes of 615100,
9 615800, 715100 and 715800.

10 Based on my review, the Public Staff agrees with the following
11 purchased power expense totals and current pricing adjustments
12 provided by Aqua:

| | <u>Total Expense</u> |
|--------------------|----------------------|
| 14 ANC Water | \$2,368,986 |
| 15 ANC Sewer | \$1,054,929 |
| 16 Brookwood Water | \$ 271,000 |
| 17 Fairways Water | \$ 75,588 |
| 18 Fairways Sewer | \$ 107,989 |

19 **PURCHASED WASTEWATER TREATMENT EXPENSE**

20 I reviewed the purchased wastewater treatment expenses using the
21 Company's purchased wastewater treatment expense records and
22 found the total per books purchased wastewater treatment expenses

1 to be accurate and reasonable. The Company proposed a pro forma
2 adjustment to apply the most recent vendor rate changes from the City
3 of Charlotte/Mecklenburg County and Carolina Water Service, Inc. of
4 North Carolina (CWSNC). The City of Charlotte/Mecklenburg County
5 purchased wastewater treatment expense was updated for rates
6 effective July 1, 2019. Pursuant to the Commission's Order Approving
7 Joint Partial Settlement Agreement and Stipulation, Granting Partial
8 Rate Increase, and Requiring Customer Notice issued in Docket No.
9 W-354, Sub 360, the CWSNC purchased wastewater treatment
10 expense was updated for rates effective February 21, 2019. Based on
11 the foregoing, the Public Staff agrees with the Company's pro forma
12 adjustment to update these suppliers' rates.

13 I also reviewed the Company's pro forma adjustment to add a full
14 year of Johnston County wastewater treatment and transmission
15 service charges for Neuse Colony. Aqua began purchasing
16 wastewater treatment and transmission services for Neuse Colony in
17 April 2019. I reviewed the seven invoices Aqua received from the
18 Johnston County Public Utilities Department between April 2019 and
19 October 2019 and the adjustment appears to be appropriate.
20 Additionally, Aqua made pro forma adjustments to remove specific
21 charges including a 2018 year-end accrual and some power charges,
22 both coded to purchased water expense account. Because the pro
23 forma adjustment removes purchased water expenses, their removal

1 from purchased wastewater treatment expenses also appears to be
2 appropriate.

3 Additionally, I reviewed Aqua's purchased wastewater treatment
4 expense update submitted to the Public Staff and filed on April 21,
5 2020. In its update, Aqua requested an additional Item 18 adjustment
6 amount of \$12,867.87. Aqua stated the adjustment was made to
7 reflect the impact of a proposed July 2020 rate increase for the
8 Johnston County wastewater treatment and transmission service
9 charges for Neuse Colony in ANC's Central Area. The proposed rate
10 increase is based on an April 16, 2020 email from Chandra Farmer,
11 Director of the Johnston County Public Utilities Department.¹ In the
12 email, the Director states that the Johnston County Public Utilities
13 Department has not completed the budgeting process or discussed the
14 details of any rate increase with the Johnston County Manager or
15 Johnston County Board of Commissioners.² Because the rate change
16 process has not being completed or finalized by the Johnston County
17 Public Utilities Department, Aqua's inclusion of the rate increase pro
18 forma adjustment of \$12,867.87 is premature and should not be
19 allowed because it is not known and measureable.

¹ The email was filed as page 2 of Aqua's Update to Purchased Waste Water Treatment Expense, W-1, Item 18, filed in Docket No. W-218, Sub 526 on April 21, 2020.

² Id.

1 With the removal of the pro forma adjustment submitted by Aqua as an
2 update on April 21, 2020, the Public Staff recommends Aqua's stated
3 test year adjusted purchased wastewater treatment expenses are
4 reasonable and acceptable as follows:

| 5 | | <u>Per Books</u> | <u>Pro Forma</u> | <u>Total</u> |
|---|----------------|------------------|-------------------|----------------|
| 6 | | | <u>Adjustment</u> | <u>Expense</u> |
| 7 | ANC Sewer | \$485,714 | \$71,785 | \$557,499 |
| 8 | ANC Water | \$ (19) | \$ 19 | \$ 0 |
| 9 | Fairways Sewer | \$ 6,043 | \$ (723) | \$ 5,320 |

10 **PURCHASED FUEL FOR PRODUCTION**

11 I reviewed the purchased fuel for production expenses provided by
12 Aqua based on the Company's purchased fuel for production expense
13 records. Based on my review, Aqua's total per books purchased fuel
14 for production expenses appear to be accurate.

15 On April 21, 2020, Aqua filed Item 18 updates, including updated
16 purchased power expenses. Included in the purchased power
17 expense update were updated purchased fuel for production
18 expenses. The Item 18 adjustment was made to update the expense
19 to the actuals/per books amounts for the 12-month period ended
20 March 31, 2020. The Public Staff agrees with Aqua's Item 18 adjusted
21 fuel for production expenses as follows:

| | | | |
|---|-----------------|-------------------------------|------------------------------------|
| 1 | | <u>Aqua Application Total</u> | <u>Aqua Item 18 Adjusted Total</u> |
| 2 | ANC Water | \$ 1,169 | \$ (1,571) |
| 3 | ANC Sewer | \$26,392 | \$19,318 |
| 4 | Brookwood Water | \$ 901 | \$ (613) |
| 5 | Fairways Water | \$ (780) | \$ (209) |
| 6 | Fairways Sewer | \$ (374) | \$ 1,569 |

7 **TRANSPORTATION FUEL COST**

8 I reviewed the transportation fuel cost expenses provided by Aqua.
9 Based on my review of Aqua's transportation fuel cost expense
10 records, Aqua's total per books transportation fuel cost expenses
11 appear to be accurate and reasonable. In its W-1, Item 10, Exhibit B3-
12 p-2, the Company proposed a pro forma adjustment to reflect the
13 application of the three-year average fuel price of \$2.418. The three-
14 year average fuel price determined by Aqua has been calculated
15 correctly and is also reasonable. The transportation expense is further
16 addressed in the testimony and exhibits of Public Staff witness Windley
17 Henry.

18 **Q. CAN YOU BRIEFLY DESCRIBE THE RESULTS OF YOUR REVIEW**
19 **OF AQUA'S CUSTOMER SERVICE?**

20 **A.** My review of Aqua's Customer Service is based on information from
21 the following four sources:

22 1. The Aqua North Carolina, Inc. - Bi-Monthly Reports on Water
23 Quality Issues filed in Docket No. W-218, Sub 497A;

- 1 2. The Public Staff's Quarterly Reports on Aqua Water Quality
2 Complaints filed in Docket No W-218, Sub 497A;
- 3 3. The Aqua customer statements filed in Docket Nos. W-218,
4 Sub 526, and Sub 526CS; and
- 5 4. Aqua's response to Public Staff Data Request No. 87.

6 On February 14, 2020, the Commission issued an Order Scheduling
7 Hearings, Establishing Discovery Guidelines, and Requiring Customer
8 Notice (Scheduling Order) in the present docket providing for, among
9 other things, six hearings across the state for the purpose of receiving
10 public witness testimony from Aqua's customers. The six public
11 witness hearings were scheduled to take place on the following dates
12 and at the following locations:

13 Monday, April 13, 2020, Wilmington, North Carolina
14 Monday, April 20, 2020, Greensboro, North Carolina
15 Tuesday, April 21, 2020, Gastonia, North Carolina
16 Wednesday, April 22, 2020, Statesville, North Carolina
17 Monday, April 27, 2020, Raleigh, North Carolina
18 Wednesday, April 29, 2020, Fayetteville, North Carolina

19 On March 31, 2020, the Commission issued an Order Postponing
20 Public Witness Hearings in response to an executive order issued by
21 Governor Roy Cooper declaring a State of Emergency and to assist in

1 preventing the spread of coronavirus (COVID-19). The Presiding
2 Commissioner found good cause to postpone the public witness
3 hearings until further order by the Commission.

4 The Public Staff supports the Commission's postponement of the
5 public witness hearings to assist in preventing the spread of COVID-
6 19. The Public Staff considers public witness hearings to be an
7 essential part of rate case proceedings and supports rescheduling the
8 public witness hearings to receive customer testimony when the
9 Commission determines it is appropriate to do so.

10 Due to the postponement of public witness hearings, my review of the
11 Company's customer service does not address customer testimony
12 from public witness hearings associated with this rate case. The Public
13 Staff reserves the right to file supplemental testimony regarding
14 customer service and associated conclusions and recommendations
15 subsequent to the rescheduled public witness hearings.

16 **Customer Statements**

17 Two customer statements have been filed in Docket No. W-218,
18 Sub 526CS. The first, dated March 3, 2020, opposed any significant
19 increase from Aqua "as their service and response to issues has been
20 subpar." The second, dated March 20, 2020, opposed the rate
21 increase stating that Aqua is a "stunningly profitable company."

1 An additional customer statement was filed in Docket No. W-218,
2 Sub 526. Dated April 2, 2020, the customer statement requested that
3 the Public Staff review the calculation contained in the Notice to
4 Customers of the proposed increase to the customer's water and
5 sewer rates, which the customer believed had been calculated by the
6 Company. The customer stated that his calculations yielded a higher
7 increase than that identified in the Notice to Customers. The proposed
8 increase amounts contained in the Notice to Customers were prepared
9 by the Public Staff, reviewed for accuracy by the Company, and
10 recommended by the Public Staff to the Commission for issuance in
11 the Scheduling Order. The April 2, 2020 customer statement indicated
12 that the customer lives in the Woodlake Development. I verified the
13 rate increase amount based on the water and sewer rates provided in
14 the customer notice. The water increase was determined as follows:

| | <u>Current Rate</u> | <u>Proposed Rate</u> |
|------------------------------|---------------------|----------------------|
| 15 Monthly Base Fee | \$19.25 | \$21.57 |
| 17 Usage Charge | \$2.77/Kgal | \$2.77/Kgal |
| 18 Monthly Average Usage | 4,896 gallons | 4,896 gallons |
| 19 Subtotal | \$32.81 | \$35.13 |
| 20 Monthly WSIC ³ | 2.69% | 0% |
| 21 Total Cost | \$33.69 | \$35.13 |
| 22 % Change | | 4.27% |

³ WSIC stands for Water System Improvement Charge.

1 The 4.27% increase was rounded to the 4.3% increase stated in the
2 Notice to Customers for the average monthly residential water bill for
3 the Woodlake Development.

4 The customer's monthly residential, unmetered sewer flat rate was
5 calculated as follows:

| 6 | | <u>Existing Rate</u> | <u>Proposed Rate</u> |
|----|---------------------|----------------------|----------------------|
| 7 | Monthly Residential | | |
| 8 | Unmetered Service | | |
| 9 | Flat Rate | \$72.04 | \$80.18 |
| 10 | SSIC ⁴ | 1.15% | 0% |
| 11 | Total Cost | \$72.87 | \$80.18 |
| 12 | % Change | | 10.03% |

13 The 10.03% increase should have been rounded to 10.0% and is
14 slightly lower than the 10.4% rate increase for monthly residential,
15 unmetered sewer flat rate contained in the Scheduling Order and is
16 believed to be a typographical error by the Public Staff.

17 On May 13, 2020, I called the author of the April 2, 2020 customer
18 statement. After verifying his water and sewer information, I explained
19 the method for calculating rate increases and that the Public Staff was
20 responsible for determining the proposed rate percent increase. By the
21 end of the call, the individual was aware that Aqua was not responsible

⁴ SSIC stands for Sewer System Improvement Charge.

1 for determining the percent increase contained in the Notice to
2 Customers and indicated that his questions had been answered.

3 **Aqua North Carolina, Inc. - Bi-Monthly Reports on**
4 **Water Quality Issues**

5 On March 31, 2020, in Docket No. W-218, Sub 497A, Aqua filed the
6 most recent Aqua North Carolina, Inc. - Bi-Monthly Report on
7 Secondary Water Quality Issues covering the months of January and
8 February 2020. In that filing, Aqua requests approval to discontinue bi-
9 monthly reporting for 16 of the 18 water systems. Of the 16 water
10 systems for which Aqua requests approval to discontinue bi-monthly
11 reporting, Stonebridge has received no customer complaints during
12 the 16-month period from November 2018 through February 2020. Six
13 water systems have received no customer complaints during the 14-
14 month period from January 2019 through February 2020. These water
15 systems are Sussex Acres, Swan's Mill, Wood Valley, Medfield,
16 Saddleridge, and Waterfall Plantation.

17 For the remaining 9 water systems, Aqua received 33 total
18 complaints during the 14-month period from January 2019 through
19 February 2020. However, Aqua contends it should nevertheless be
20 allowed to discontinue bi-monthly reporting due to the nature of the
21 complaint(s), the installation of filtration devices, and because no
22 customers from the utility systems testified regarding secondary water

1 quality concerns at the public hearings for the W-218, Sub 497, rate
2 case.

3 Of the 33 complaints received, Aqua stated that 5 were related to
4 discolored hot water, indicating an issue with the homeowners' hot
5 water heaters, 2 were the result of the homeowners' in-home filters
6 requiring flushing or replacement, and 2 required no corrective action
7 by Aqua. Of the remaining 24 complaints, Aqua stated that 5 required
8 flushing to be performed by the homeowner or Aqua as the primary
9 corrective action, and 19 complaints were due to equipment failure
10 (EF) or operational issues (OI) with Aqua's water system equipment.
11 With the exception of the main breaks, the remaining equipment
12 failures and operational issues were single events affecting multiple
13 residences in the water system. The equipment failures, operational
14 issues, and impacted water systems are summarized below:

| 15 | <u>EF/OI</u> | <u>Complaints</u> | <u>Water System</u> |
|----|--------------------------------|-------------------|--------------------------|
| 16 | Main Break | 2 | Meadow Ridge, Coachman's |
| 17 | | | Trail |
| 18 | Air Compressor Failure | 2 | Olde South Trace |
| 19 | Filter Backwash Cycle Time | 5 | Westmoor |
| 20 | Flow Reversal – System Startup | 10 | Coachman's Trail |

21 Additionally, of the nine water utility systems for which Aqua received
22 complaints during the 14-month period from January 2019 through

1 February 2020, two water systems, Castelli and Yorkwood Park, do
2 not have filtration systems installed. The remaining water systems
3 have either iron and manganese filtration systems and/or cartridge
4 filters installed.

5 The Public Staff has consistently stated that for water quality filters,
6 such as greensand or manganese dioxide, to provide effective
7 filtration of well water, the system must be properly designed,
8 installed, operated, and maintained. The installation of a filter does
9 not guarantee trouble-free water service. This is especially
10 applicable to the Coachman's Trail Well No. 4 iron and manganese
11 filtration system and adjoining distribution system that has been the
12 source of multiple discolored water events for customers in the
13 surrounding area. Additionally, the Public Staff has previously
14 pointed out that the imbalance between supply and demand in the
15 Bayleaf-Leesville master system has been a source of water quality
16 and service issues. The actual supply on the system is less than the
17 well production originally approved by the North Carolina
18 Department of Environmental Quality (DEQ) and the system
19 consistently struggles to meet demand during warm and/or dry
20 periods.

21 Based on the information contained in the Aqua North Carolina, Inc.
22 - Bi-Monthly Reports on Water Quality Issues, the Public Staff agrees

1 with Aqua's request for approval to discontinue bi-monthly reporting for
2 16 of 18 water systems with the exception of Coachman's Trail. This
3 water system continues to experience operational and equipment
4 issues directly affecting water quality and the bi-monthly reporting
5 requirement should therefore be maintained.

6 **Water Quality**

7 The Consumer Services Division of the Public Staff (Consumer
8 Services) investigates customer complaints and helps to resolve them
9 after the customer has attempted to resolve the problem directly with
10 the utility. It is the standard practice of Consumer Services staff to ask
11 customers whether they have contacted the appropriate utility prior to
12 contacting Consumer Services. I reviewed the Public Staff's Quarterly
13 Reports on Aqua Water Quality Complaints filed in Docket No. W-218,
14 Sub 497A, for each quarter of 2019. During 2019, Consumer Services
15 received 136 complaints from Aqua customers, either by telephone call
16 or by written statement. As described in the Public Staff's Quarterly
17 Reports on Aqua Water Quality Complaints, the Public Staff reviewed
18 each complaint and determined that 15 were related to water quality.
19 These water quality complaints were either low water pressure/water
20 service outages or discolored water events.

21 The low water pressure/water service outages were examples of
22 discretionary water usage increasing demand to the point of

1 necessitating expensive capital investment to maintain quality and
2 reliability of service. Under drought conditions, Aqua is authorized by
3 the Commission to enforce mandatory water usage restrictions, which
4 customers should abide by to ensure the availability of water for
5 essential uses.

6 Of the discolored water events, one was the result of a main break and
7 another was due to reverse flow in the distribution system that occurred
8 during the startup of a filter system. Discolored water events have
9 continued to occur in water systems where filtration systems have
10 been installed. The Public Staff has consistently stated that, for water
11 quality filters such as greensand or manganese dioxide filters to
12 provide effective filtration of well water, the filter system must be
13 properly designed, installed, operated, and maintained. The
14 installation of a filter alone does not guarantee trouble free water
15 service.

16 In response to Public Staff Data Request No. 87, Aqua provided
17 information on the Lab D service orders created for water quality
18 (discolored) complaints from January 1, 2018, through April 20, 2020.
19 On September 1, 2018, Aqua revised the procedure for after-hours call
20 tracking. To ensure consistency of data, the Public Staff narrowed its
21 review and analysis of the Lab D service orders from September 1,
22 2018, through April 20, 2020.

1 The Lab D service order information Aqua provided in response to
2 Public Staff Data Request No. 87 contained, among other information,
3 the date of each complaint and a description of the technician's
4 reported cause. From September 1, 2018, through April 20, 2020,
5 1,954 Lab D service orders were created. The technician's reported
6 cause for each service order was reviewed and is summarized below:

| 7 | <u>Technician's Reported Cause</u> | <u>Percentage of Total</u> |
|----|---------------------------------------|----------------------------|
| 8 | No Problem | 28.2% |
| 9 | Source Water Quality Issue | 19.3% |
| 10 | No Reported Cause | 14.3% |
| 11 | Flush/Distribution System Maintenance | 13.2% |
| 12 | Main Break | 5.5% |
| 13 | Treatment System Issue | 4.7% |
| 14 | Pump Failure | 4.5% |
| 15 | Construction | 3.5% |
| 16 | Other | 6.8% |

17 Eliminating the Lab D service orders for which the technician's reported
18 cause was "No Problem" results in a more accurate quantification of
19 the technician's reported causes as shown below:

| | | |
|---|---------------------------------------|----------------------------|
| 1 | <u>Technician Reported Cause</u> | <u>Percentage of Total</u> |
| 2 | Source Water Quality Issue | 26.9% |
| 3 | No Reported Cause | 19.9% |
| 4 | Flush/Distribution System Maintenance | 18.4% |
| 5 | Main Break | 7.6% |
| 6 | Treatment System Issue | 6.6% |
| 7 | Pump Failure | 6.3% |
| 8 | Construction | 4.9% |
| 9 | Other | 9.4% |

10 My review of trends in technician's reported causes does not show a
11 significant change in performance of the above items over the
12 timeframe from September 1, 2018, through April 20, 2020.

13 **Q. BRIEFLY DESCRIBE THE STATUS OF THE COMPANY'S**
14 **NOTICES OF DEFICIENCY (NODs) REGARDING IRON AND/OR**
15 **MANGANESE CONCENTRATION LEVELS.**

16 A. I reviewed Aqua's Quarterly Notices of Deficiency Reports Provided
17 to DEQ filed in Docket No. W-218, Sub 497A. The majority of DEQ
18 deficiencies addressed in Aqua's quarterly notices are deficiencies
19 identified by DEQ for iron and/or manganese concentration(s) that
20 occurred between 2016 and 2018.⁵ Aqua's responses to DEQ

⁵ In 2016, DEQ issued NODs for 68 Aqua drinking water supply wells for elevated concentration levels of iron and/or manganese.

1 contain summaries of well information, including completed and
2 planned activities, for the wells where DEQ identified deficiencies.
3 The responses also provide a summary of raw, point of entry, and
4 distribution iron and manganese samples as part of the inorganic
5 chemical analysis with both historical and recent analysis results and
6 customer water quality complaints received during the quarter. DEQ
7 has identified 22 drinking water wells with ongoing deficiencies.

8 **Q. BRIEFLY DESCRIBE THE RESULTS OF YOUR INVESTIGATION**
9 **OF DEQ NOTICES OF VIOLATION AND FINES.**

10 A. In response to Public Staff Data Request No. 76, Aqua provided
11 information on findings of environmental non-compliance regarding
12 Aqua's water and wastewater systems from July 1, 2018, through
13 March 31, 2020. This information demonstrates that Aqua received
14 significantly more violations on its wastewater utility systems as
15 compared to its water utility systems as shown below:

| 16 | <u>Year</u> | <u>Wastewater Violations</u> | <u>Water Violations</u> |
|----|-------------|------------------------------|-------------------------|
| 17 | 2018 | 36 | 1 |
| 18 | 2019 | 66 | 1 |
| 19 | 2020 | 8 | 4 |

20 The 2018 wastewater violations resulted in approximately \$2,700 in
21 fines/penalties. Of the 2018 wastewater violations, 24 violations were
22 on the Neuse Colony wastewater system where an operator failed to

1 collect the required sample for reporting purposes. According to the
2 information provided by the Company in response to Public Staff
3 Data Request No. 76, the required samples were not collected
4 because Aqua personnel were unaware that new sampling
5 frequencies had gone into effect for the Neuse Colony wastewater
6 treatment plant. Aqua has implemented measures to ensure that
7 new permits are forwarded to the proper personnel and supervisors.

8 Four of the Company's 2018 wastewater violations were on the
9 Wildwood Green wastewater system for total nitrogen and total
10 phosphorus monthly average exceedance. In response to the
11 Wildwood Green violations, Aqua indicated that the wastewater
12 system was not designed for total nitrogen removal and submitted a
13 pilot improvement plan to DEQ to meet the total nitrogen monthly
14 average concentration limit. Additionally, Aqua submitted an
15 application requesting the combining of the Hawthorne wastewater
16 system and Wildwood Green wastewater system nitrogen and
17 phosphorus allocations, and the implementation of mass loadings as
18 provided in the North Carolina Administrative Code, Title 15A,
19 Environmental Quality.

20 In 2019, Aqua received 66 violations and 12 deficiencies on its
21 wastewater systems, resulting in approximately \$8,000 in
22 fines/penalties. Of the violations, 32 were due to capacity issues that

1 caused Aqua to exceed ammonia, nitrogen, biochemical oxygen
2 demand, and flow limits. All 32 violations were from the Neuse
3 Colony wastewater system. To address the capacity issue, Aqua
4 interconnected the Neuse Colony wastewater system with the
5 Johnston County wastewater system in April 2019.

6 Twelve of the 2019 wastewater system violations were related to
7 filter design issues causing wear holes to develop in screens, thereby
8 allowing the discharge of excess pollutants. Eleven of these
9 violations occurred at the Beau Rivage wastewater system. Aqua
10 took action to remedy the design flaw. Five of the 2019 wastewater
11 system violations occurred at the Neuse River Village wastewater
12 system due to exceedances of biochemical oxygen demand limits or
13 coliform and fecal dry matter limits. To resolve the exceedances of
14 coliform and fecal dry matter limits, Aqua adjusted the system
15 chemicals to improve disinfection. The biochemical oxygen demand
16 limit was exceeded due to an elevated river level trapping air in the
17 discharge line, which affected the sample results.

18 From January 1, 2020, through March 31, 2020, Aqua received eight
19 violations and three deficiencies on its wastewater systems, resulting
20 in approximately \$1,800 in fines/penalties. Three of the 2020
21 wastewater system violations were at the Olde Beau wastewater

1 system and were due to the exceedance of biochemical oxygen
2 demand, coliform, and fecal membrane filter limits.

3 Of the six water system violations that occurred between January 1,
4 2018, and March 31, 2020, the 2018 and 2019 water system
5 violations occurred at The Cape water system and were for
6 exceeding maximum contaminant levels of disinfection by-products.
7 These were ongoing violations from July 2017. Additionally, though
8 not identified in Aqua's response to Public Staff Data Request
9 No. 76, The Cape also received a water system violation in 2020. On
10 January 13, 2020, Aqua received a continuing violation for The Cape
11 due to the exceedance of the total trihalomethane maximum
12 contaminant level. To address the elevated levels of disinfection by-
13 products, specifically trihalomethane, Aqua files quarterly reports
14 with DEQ detailing its disinfection by-products monitoring results for
15 The Cape water system, including its actions and plans to address
16 the elevated trihalomethane levels. The three remaining violations in
17 2020 were on three different water systems where the operator failed
18 to take a sample resulting in monitoring violations. Samples were
19 retaken in March 2020 for one water system and in April 2020 for the
20 remaining two water systems.

21 **Q. DO YOU HAVE ANY RECOMMENDATIONS REGARDING**
22 **WATER QUALITY REPORTING?**

1 A. Yes. I recommend that the Commission order the Company to
2 continue to file written reports semi-annually. If a particular secondary
3 water quality concern has affected or is affecting 10 percent of the
4 customers in an individual subdivision service area or 25 billing
5 customers, whichever is less, the customers affected and the
6 estimated expenditures necessary to eliminate the secondary water
7 quality issues through the use of projects eligible for recovery through
8 the WSIC should be detailed in the written report.

9 Furthermore, I recommend that the Commission order Aqua to
10 continue to convey to the Public Staff in a timely manner conversations
11 with, reports to, and the recommendations of DEQ regarding the water
12 and wastewater quality concerns being evaluated and addressed in
13 Aqua's systems. I recommend that such communications continue to
14 be provided in written format on a bi-monthly basis, at a minimum. I
15 also recommend that Aqua be required to provide the Public Staff with
16 copies of the following: (1) Aqua's reports and letters to DEQ
17 concerning water quality concerns in its systems; (2) responses from
18 DEQ concerning reports, letters, or other verbal or written
19 communications received from Aqua; and (3) DEQ's specific
20 recommendations to Aqua, by system, concerning each of the water
21 quality concerns being evaluated by DEQ.

1 Functionally, the recommendations above would be a continuation of
2 the Commission's Ordering Paragraphs 10 and 14 of the
3 Commission's Order Approving Partial Settlement Agreement and
4 Stipulation, Granting Partial Rate Increase, and Requiring Customer
5 Notice issued on December 18, 2018, in Docket No. W-218, Sub 497.

6 **Q. PLEASE SUMMARIZE THE STATE OF AQUA'S WATER**
7 **QUALITY.**

8 A. Based on my investigation, I have determined that Aqua's water
9 utility systems are generally in compliance with federal and state
10 regulations, testing requirements, and primary water quality
11 standards. Where problems have been identified, Aqua has
12 generally corrected the problems or is actively working toward
13 solutions. However, the Company continues to contend with some
14 water quality issues. For example, Aqua witness Berger states in her
15 direct testimony, "Of Aqua's 1,285 entry points in this state,
16 approximately 75 draw from groundwater that is considered Group 1
17 (Fe + Mn > 1 or Mn > 0.3 mg/L) with appreciable amounts of iron and
18 manganese and currently do not have filtration."⁶ Aqua should
19 continue its efforts to optimize operations and maintenance and,

⁶ Page 11, lines 16-19, Direct Testimony of Company witness Amanda Berger filed in Docket No. W-218, Sub 526, on December 31, 2019.

1 where necessary, make reasonable and prudent capital investments
2 to replace, renovate, upgrade, or install treatment systems.

3 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

4 A. Yes, it does.

QUALIFICATIONS AND EXPERIENCE

D. MICHAEL FRANKLIN

I graduated from the University of South Carolina, earning a Bachelor of Science Degree in Engineering. I worked in the electric utility industry for 33 years prior to joining the Public Staff in June 2019. While employed by the Public Staff I have worked on utility rate case proceedings, new franchise and transfer applications, customer complaints, and other aspects of utility regulation.