

**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

DOCKET NO. W-218, SUB 526

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 )

ORDER APPROVING PARTIAL  
SETTLEMENT AGREEMENT AND  
STIPULATION, DECIDING CONTESTED  
ISSUES, GRANTING PARTIAL RATE  
INCREASE, AND REQUIRING  
CUSTOMER NOTICE

HEARD: Tuesday, June 23, 2020, at 9:30 a.m., Commission Hearing Room 2115,  
Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina

Wednesday, July 8, 2020, at 1:30 p.m., and continuing as required through  
Monday, July 13, 2020, by virtual means using the Webex electronic  
platform

Monday, August 3, 2020, at 1:30 p.m., by virtual means using the Webex  
electronic platform

Monday, August 3, 2020, at 6:30 p.m., by virtual means using the Webex  
electronic platform

BEFORE: Commissioner ToNola D. Brown-Bland, Presiding; Chair Charlotte A.  
Mitchell and Commissioners Lyons Gray, Daniel G. Clodfelter, Kimberly W.  
Duffley, Jeffrey A. Hughes, and Floyd B. McKissick, Jr.

APPEARANCES:

For Aqua North Carolina, Inc.:

Jo Anne Sanford, Sanford Law Office, PLLC, Post Office Box 28085,  
Raleigh, North Carolina 27611-8085

Robert H. Bennink, Jr., Bennink Law Office, 130 Murphy Drive, Cary, North  
Carolina 27513

For the Using and Consuming Public:

Megan Jost, William E. Grantmyre, and William Creech, Staff Attorneys,  
Public Staff – North Carolina Utilities Commission, 4326 Mail Service  
Center, Raleigh, North Carolina 27699

Margaret A. Force, Assistant Attorney General, and Teresa Townsend,  
Special Deputy Attorney General, North Carolina Department of Justice,  
Post Office Box 629, Raleigh, North Carolina 27602

BY THE COMMISSION: On November 26, 2019, pursuant to Commission Rule R1-17(a), Aqua North Carolina, Inc. (Aqua NC or the Company) filed a letter notifying the North Carolina Utilities Commission (Commission or NCUC) of its intent to file an application for a general rate case. On December 31, 2019, Aqua NC filed an Application to Increase Rates and Charges (Application or Rate Case Application) with the Commission requesting authority to adjust and increase its rates for water and sewer utility services in all its service areas in North Carolina, effective for service rendered on and after January 30, 2020. Included with this filing was certain information and data required by NCUC Form W-1, and the testimony and exhibits of witnesses Shannon Becker, Amanda Berger, Dylan D'Ascendis, and Edward Thill, and Direct Testimony of Joseph Pearce and Dean Gearhart.

The Commission issued its Order Establishing General Rate Case and Suspending Rates on January 21, 2020. The order declared the matter to be a general rate case, suspended the Company's proposed rates for up to 270 days, and established the test year period as the 12 months ending September 30, 2019. On February 14, 2020, the Commission issued its Order Scheduling Hearings, Establishing Discovery Guidelines, and Requiring Customer Notice (Scheduling Order). Among other things, the Scheduling Order established the dates, times, and locations for six public witness hearings to take place in April 2020 and an expert witness hearing to begin on June 23, 2020.

On March 2, 2020, Aqua NC filed its Ongoing Three-Year Water and Sewer System Improvement Charge (WSIC/SSIC) Plan in Docket No. W-218, Sub 497A.

On March 31, 2020, to assist in preventing the spread of coronavirus and in response to Governor Roy Cooper's Executive Order No. 121 imposing a statewide "stay at home" order until April 29, 2020, the Commission issued an order postponing the previously scheduled public witness hearings pending further order.

On April 29, 2020, the North Carolina Attorney General's Office (AGO) filed a notice of intervention in this docket pursuant to N.C. Gen. Stat. § 62-20.

The Public Staff filed the testimony of Public Staff witness Hinton on May 19, 2020, and on May 26, 2020, it filed the testimony and exhibits of its witnesses Michelle M.

Boswell, Lindsay Darden, Lynn Feasel, D. Michael Franklin, Windley E. Henry, and Charles M. Junis..

On May 21, 2020, Aqua NC filed the revised exhibits to the direct testimony of its witnesses Shannon Becker and Edward Thill. On June 2, 2020, Aqua NC filed the rebuttal testimony of Company witness D'Ascendis.

On June 11, 2020, Aqua NC filed a Petition for Approval of an Order Allowing Deferral of Revenues in Lieu of Rates Under Bond or, Alternatively, Notice of Intent to Place Temporary Rates in Effect Subject to an Undertaking Refund Pursuant to N.C.G.S. § 62-135 (Petition).

On June 12, 2020, Aqua NC filed the rebuttal testimony and exhibits of its witnesses Amanda Berger, Dean R. Gearhart, Paul J. Hanley, Joseph Pearce, George Kunkel, and Edward Thill, and on June 13, 2020, it filed the joint rebuttal testimony and exhibits of witnesses Becker and Pearce.<sup>1</sup> On June 15, 2020, Aqua NC filed the rebuttal testimony of its witness Gearhart with corrected Rebuttal Exhibit 1, and the joint rebuttal testimony of its witnesses Becker and Pearce with corrected Rebuttal Exhibits.

On June 16, 2020, the Public Staff and the AGO filed a joint response to Aqua NC's June 11, 2020 Petition requesting deferral of revenues or, alternatively, implementation of rates under bond.

On June 19, 2020, Aqua NC filed revisions to the rebuttal testimony and exhibits of Company witnesses Berger and Thill.

On June 22, 2020, the Public Staff filed the corrected testimony of witness Junis and the corrected joint testimony and exhibits of witnesses Henry and Junis.

On June 23, 2020, at 9:30 a.m., the Commission convened the expert witness hearing as scheduled, but due to the State of Emergency relating to COVID-19, the hearing was recessed until July 6, 2020, for the purpose of receiving expert witness testimony by virtual means using the Webex electronic platform.

Also on June 23, 2020, the Commission issued an order denying use of a revenue deferral mechanism in lieu of rates under bond. By the same order, the Commission approved Aqua NC's financial undertaking associated with placing partial, temporary rates under bond pursuant to N.C.G.S. § 62-135 and approved the Company's Notices to Customers. The Commission noted that whether to exercise the remedy provided by N.C.G.S. § 62-135 is not a determination for the Commission but is instead the Company's choice and found that Aqua NC's motion satisfied the statutory requirements

---

<sup>1</sup> Because June 13, 2020, fell on a Saturday, the joint rebuttal testimony of Aqua NC's witnesses Becker and Pearce was not marked filed by the Clerk's Office until the next business day, June 15, 2020.

necessary to place new rates into effect on July 30, 2020 on a partial, temporary basis, subject to refund with interest at a rate of 10% per annum.

On June 29, 2020, the Commission issued an order rescheduling the public witness hearing for August 3, 2020, to be held in two sessions, beginning at 1:30 p.m. and 6:30 p.m. via virtual means. The order required Aqua NC to file verified reports addressing all customer service and service quality complaints expressed during each public witness hearing within 20 days of the conclusion of the hearing. The Public Staff was required, and intervenors were allowed, to file verified responses and any comments to Aqua NC's reports on or before September 4, 2020. Aqua NC was also required to provide the approved Notice to Customers to all affected customers no later than July 10, 2020.

Together with the Stipulation, Aqua NC filed a motion seeking Commission approval of revised Notices to Customers. In its motion, Aqua NC sought to implement partial, temporary rates under bond at a lower level than previously requested and lower than was set forth in the Notice to Customers in the Commission's June 23, 2020 Order. Also on July 1, 2020, Aqua NC filed its executed Undertaking to Refund pursuant to N.C.G.S § 62-135(c).

On July 1, 2020, Aqua NC and the Public Staff entered into and filed a Partial Settlement Agreement and Stipulation (Stipulation). The Stipulation resolved some of the issues between the two parties in this docket. However, the following unresolved issues still existed: (1) Conservation Pilot Program; (2) rate design; (3) water quality reporting; and (4) the in-service date of plant and Aqua NC's unitization process, further described herein (collectively, the Unresolved Issues).

On July 2, 2020, the Commission issued an order approving Aqua's revised Notices to Customers and accepting Aqua's financial undertaking subject to refund.

On July 7, 2020, at the Commission's request, the Public Staff filed Revised Exhibits I and II of Public Staff witness Windley E. Henry, Revised Exhibit I of Public Staff witness Lynn Feasel, and Revised Exhibits 7, 9, 13, 15, and 17 of Public Staff witness Charles M. Junis, updating said exhibits in light of the Stipulation.

This matter came on for the expert witness hearing on July 8, 2020, by virtual means using the Webex electronic platform. Aqua NC presented the testimony of its witnesses Becker, Berger, D'Ascendis, Gearhart, Hanley, Kunkel, Pearce, and Thill. The testimony of witnesses D'Ascendis, Hanley, Kunkel and Pearce was received into the record without examination of the witnesses by any party or the Commission. Witnesses Becker, Berger, Gearhart, and Thill were sworn in and subject to cross-examination. The Public Staff presented the testimony of its witnesses Boswell, Darden, Feasel, Franklin, Henry, Hinton, and Junis. The testimony of witnesses Boswell, Darden, Feasel and Hinton was received into the record without examination of the sponsoring witnesses. Witnesses Franklin, Henry, and Junis were made available for examination by the parties and the

Commission. The hearing recessed on July 13, 2020, to be reconvened on August 3, 2020, to receive customer public witness testimony as scheduled.

On July 15, 2020, following the expert witness hearing but prior to the public witness hearing, Aqua NC filed its Confidential Late-Filed Becker Direct Exhibit 4, and on July 27, 2020, it filed a Late-Filed Exhibit with responses to Commissioner's questions.<sup>2</sup>

On July 17, 2020, the Public Staff filed its Late-Filed Exhibit 1 requesting the Commission to take judicial notice of the Commission's final orders in three prior Aqua NC rate cases. On July 20, 2020, the Public Staff filed its Late-Filed Exhibit 2 with responses to Commissioner's Questions of Public Staff witness Charles M. Junis.

The parties filed all late-filed exhibits requested by the Commission requested during the expert witness hearing. No party raised any objection to such exhibits and, therefore, said late-filed exhibits are deemed admitted into the record.

On August 3, 2020, the public witness hearing was held in two sessions as scheduled. A total of 24 customers testified as public witnesses.

On August 17, 2020, the Public Staff and Aqua NC filed proposed orders, and the AGO filed a post-hearing brief.

On August 25, 2020, Aqua NC filed its Report on Customer Comments (Report on Customer Comments) from the Public Hearing held on August 3, 2020.

On September 5, 2020, the Public Staff filed its verified response to Aqua NC's Report on Customer Comments.

On September 11, 2020, Aqua NC filed its Reply Comments to the Public Staff's response to its Report on Customer Comments.

On September 25, 2020, Aqua NC and the Public Staff filed Supplemental Proposed Orders regarding testimony from the public hearing, responses to customer concerns, and water quality reporting requirements.

WHEREUPON, on the basis of Aqua NC's verified Rate Case Application, including the NCUC Form W-1; the Partial Settlement Agreement and Stipulation; the public witness testimony; the testimony and exhibits of Aqua NC witnesses, including the Company's late-filed exhibits; the testimony and exhibits of Public Staff witnesses, including the Public Staff's late-filed exhibits; and the entire record in this proceeding, the Commission now makes the following

---

<sup>2</sup> Unless otherwise indicated, the Commission uses the term "late-filed exhibit" to refer to exhibits filed after the close of a hearing.

## FINDINGS OF FACT

### General Matters

1. Aqua NC is a corporation duly organized under the law and is authorized to do business as a regulated investor-owned water and sewer public utility in the State of North Carolina. The Company is subject to the regulatory oversight of this Commission. Aqua NC is a wholly-owned subsidiary of Essential Utilities, Inc. (Essential Utilities)<sup>3</sup> of Bryn Mawr, Pennsylvania. Aqua NC's headquarters is located in Cary, North Carolina.

2. Aqua NC is subject to the jurisdiction of the Commission pursuant to Chapter 62 of the North Carolina General Statutes for adjudication of the Company's Application for a rate increase and for a determination of the justness and reasonableness of Aqua NC's proposed rates for its water and sewer utility operations in North Carolina.<sup>4</sup>

3. The test period for this rate case is the 12-month period of time ending September 30, 2019, adjusted for certain known and actual changes in plant, revenues, and costs that were not known at the time the case was filed but are based upon circumstances and events occurring or becoming known through March 31, 2020, and including up to the close of the expert witness hearing on July 13, 2020.

4. For the 12-month test period ending September 30, 2019, Aqua NC achieved a consolidated per books rate of return on common equity of 5.44%, or a rate of return on common equity of 5.77% when adjusted to remove goodwill.

5. Aqua NC's last general rate case was decided by Commission Order entered on December 18, 2018, in Docket No. W-218, Sub 497 (Sub 497 Rate Case Order).<sup>5</sup> From January 1, 2020 until July 29, 2020, Aqua NC's Commission approved rates for water and sewer service in all its service areas were in effect pursuant to the Commission's Order Approving Water and Sewer System Improvement Charges on a Provisional Basis and Requiring Customer Notice issued in Docket No. W-218, Sub 497A on January 6, 2020. On July 30, 2020, after appropriate customer notice, Aqua NC placed new rates into effect on a partial, temporary basis as allowed pursuant to N.C.G.S. § 62-135 in its Aqua NC Water, Aqua NC Sewer, and Brookwood Rate Divisions. Any amount of such temporary rates that may be finally determined by the Commission to be excessive are subject to refund with interest at a rate of 10% per annum.

---

<sup>3</sup> On May 13, 2020, Aqua NC notified the Commission of Aqua America, Inc.'s name change to Essential Utilities, Inc. by submitting the Articles of Amendment filed with the Pennsylvania Department of State, Bureau of Corporations and Charitable Organizations, which recorded the change of corporate name from Aqua America, Inc. to Essential Utilities, Inc., effective February 3, 2020.

<sup>4</sup> Aqua NC has five rate divisions for its water and sewer operations in North Carolina: (1) Aqua NC Water; (2) Aqua NC Sewer; (3) Brookwood Water; (4) Fairways Water; and (5) Fairways Sewer.

<sup>5</sup> Pass-through rate increases for various purchased water and purchased sewer systems have been approved pursuant to N.C.G.S. § 62-133.11, subsequent to the Sub 497 Rate Case Order.

## **The Rate Case Application**

6. In summary, by its Rate Case Application, supporting documents filed on January 24 and 29, 2020, and additional filings on subsequent dates during the proceeding, Aqua NC sought an increase in its base rates and charges to its North Carolina customers of \$6,819,722 along with other relief, including cost deferrals, changes to rate design, a conservation pilot program, and a consumption adjustment -mechanism (CAM). The Rate Case Application was based upon a requested rate of return on common equity of 10.10%, an embedded long-term debt cost of 4.25%, and a capital structure of 50.00% common equity and 50.00% long-term debt.

## **The Stipulation**

7. On July 1, 2020, Aqua NC and the Public Staff (Stipulating Parties) entered into and filed a Partial Settlement Agreement and Stipulation in this docket which resolved some of the disputed issues between the Stipulating Parties pursuant to N.C.G.S. § 62-92 and Commission Rule R1-24(c). The issues that were resolved constitute the entirety of what are sometimes referred to collectively herein as the Financial Issues. The four issues not resolved by the Stipulation include Aqua NC's proposed conservation pilot program; rate design; customer service and water quality reporting requirements; and the in-service dates of plant (UPIS) and the Company's unitization practices and policies.

8. The Stipulation is the product of the give-and-take in settlement negotiations between the Aqua NC and the Public Staff, is material evidence in this proceeding, and is entitled to be given appropriate weight in this case, along with other evidence from the Company, the Public Staff, and the AGO, as well as testimony of public customer witnesses concerning the Company's Rate Case Application.

## **Stipulated Adjustments to Cost of Service**

9. The Stipulation provides for a broad range of accounting adjustments, which are set forth in detail at Settlement Exhibit I, appended to the Stipulation filed on July 1, 2020.

10. The Stipulating Parties agree that the Stipulation is a settlement of certain disputed issues between the parties in this docket and will not be used as a rationale for future arguments on contested issues brought before the Commission.

11. The accounting adjustments outlined in Settlement Exhibit I are just and reasonable to all parties in light of all the evidence presented, serve the public interest, and should be approved.

12. The Company's updates through August 14, 2020, to certain revenues, expenses, and investments, as agreed to and adjusted in the Stipulation, are appropriate for use in this proceeding.

## **Stipulations Pertaining to Rate of Return on Common Equity, Overall Return, Capital Structure, and Cost of Debt**

13. The cost of capital and revenue increase approved in this Order are intended to provide Aqua NC, through sound management, the opportunity to earn an overall rate of return of 6.81%. This overall rate of return is derived from applying an embedded cost of debt of 4.21%, and a rate of return on common equity of 9.40%, to a capital structure consisting of 50.00% long-term debt and 50.00% equity.

14. The stipulated 9.40% rate of return on common equity for Aqua NC is just and reasonable in this general rate case.

15. The stipulated 50.00% equity and 50.00% long-term debt ratio is a reasonable capital structure for Aqua NC in this case.

16. The stipulated 4.21% cost of debt for Aqua NC is reasonable for the purposes of this case.

17. The provision of continuous safe, adequate, and reliable water and wastewater utility service by Aqua NC is essential to the Company's customers.

18. The rate increase approved in this case, which includes the stipulated rate of return on common equity and capital structure, will be difficult for some of Aqua NC's customers to pay, particularly the Company's low-income customers, and especially during the unprecedented economic crisis resulting from the COVID-19 pandemic that gave rise to the Commission's disconnection moratorium.<sup>6</sup>

19. The stipulated rate of return on common equity and capital structure approved by the Commission appropriately balance the benefits received by Aqua NC's customers from the Company's necessary investments in the provision of safe, adequate, and reliable water and wastewater utility service with the difficulties that some of Aqua NC's customers will experience in paying the Company's increased rates.

20. The stipulated 9.40% rate of return on common equity and the 50.00% equity capital structure approved by the Commission in this case appropriately balance Aqua NC's need to obtain equity and debt financing with the ratepayers' need to pay the lowest possible rates.

21. The authorized levels of overall rate of return and rate of return on common equity set forth above are supported by competent, material, and substantial record evidence, are consistent with the requirements of N.C.G.S. § 62-133, and are fair to

---

<sup>6</sup> See Order issued on March 19, 2020, in Docket Nos. M-100, Sub 158. By Order issued on July 29, 2020, the Commission determined that, after appropriate customer notice in accordance with Commission rules, all jurisdictional electric, natural gas, water, and wastewater public utilities may resume customer disconnections due to nonpayment for bills first rendered on or after September 1, 2020.

Aqua NC's customers generally and in light of the impact of changing economic conditions.

### **Acceptance of Stipulation**

22. Based upon all of the evidence in the record, including consideration of the public witness testimony and the evidence from the AGO, who did not join the Stipulation, the provisions of the Stipulation are just and reasonable to the customers of Aqua NC and to all parties to this proceeding and serve the public interest. Therefore, the Stipulation should be approved in its entirety. In addition, the Stipulation is entitled to substantial weight and consideration in the Commission's decision in this docket.

### **Withdrawal of Conservation Normalization Adjustment and CAM Requests**

23. For purposes of calculating average consumption for use in this proceeding, Aqua NC sought approval to apply a conservation normalization factor to the three-year average historical consumption figures for each of the Company's three water rate divisions. Aqua NC also proposed implementation of a CAM for approval by the Commission pursuant to N.C.G.S. § 62-133.12A. During the course of this proceeding, the Company withdrew both these requests and the Commission makes no further finding as to either request.

### **Contested Issues**

#### ***Rate Design (Excluding Conservation Pilot Program)***

24. It is reasonable and appropriate that Aqua NC's rate design for water utility service provided to its residential customers should continue to be based on the following fixed/variable ratios which were proposed by the Public Staff and approved by the Commission in the Company's Sub 497 rate case: 40%:60% for the Aqua NC Water Rate Division; 41%:59% for the Brookwood Water Rate Division; and 44%:56% for the Fairways Water Rate Division. These water rate design ratios promote water efficiency and conservation while also providing Aqua NC a reasonable opportunity to recover the approved revenue requirements in this proceeding for its three water rate divisions.

25. To further promote water conservation and to give customers more control over their monthly wastewater bills, it is appropriate to implement volumetric wastewater rates with an 80% base facility charge and a 20% volumetric charge for all the Aqua NC and Fairways wastewater customers that receive water utility service from Aqua NC or Fairways water, and for whom water meter readings are presently available, excluding the approximately 800 sewer customers in the Aqua NC Water Rate Division Conservation Pilot Program.

26. It is reasonable and appropriate for all Aqua NC and all Fairways wastewater customers that do not receive metered water utility service from Aqua NC or Fairways to remain monthly flat rate wastewater customers at this time.

27. As a result of the change from flat to metered sewer rates for residential customers in the Aqua NC Sewer and Fairways Sewer Rate Divisions and the approval of the Conservation Pilot Program in the Aqua NC Water Rate Division discussed below, the Public Staff's recommended change to a fixed/variable ratio of 30%:70% for Aqua NC's three water rate divisions is not appropriate at this time. The rate design changes approved herein will provide Aqua NC's customers an opportunity to achieve additional water conservation in the Aqua NC Sewer and Fairways Sewer Rate Divisions while also providing valuable, tangible information concerning the use of two new rate design structures for Aqua NC.

28. Aqua NC should evaluate the effect on customers' monthly sewer bills as a result of the implementation of metered sewer rates for residential customers. In an annual report to the Commission, Aqua NC should compare the monthly historical consumption to the current monthly consumption for the customers converted from a flat sewer rate to a metered sewer rate to determine the change in consumption levels. Such report should state, at a minimum, the subdivision name, the number of customers billed (historical month and current month), monthly consumption billed (historical and current), and the sewer revenues billed (historical month and current month).

29. Under a metered sewer pricing rate structure, customers who irrigate through their primary household meter will receive a stronger conservation signal than the customers who irrigate through a separate irrigation meter. Aqua NC should evaluate and propose a separate rate for water provided through an irrigation meter in future rate case proceedings. Aqua NC should also evaluate and propose future rate design structures that provide pricing incentives for reducing irrigation use for all customers who use an in-ground irrigation system.

### ***Conservation Pilot Program***

30. By Order entered in Docket No. W-100, Sub 59 on March 20, 2019, the Commission initiated an Investigation of Rate Design for Major Water Utilities, requesting, in pertinent part, "a discussion of rate design proposals that may better achieve revenue sufficiency and stability while also sending appropriate efficiency and conservation signals to consumers." In response to that request, Aqua NC proposed, in this rate case, to implement a Conservation Pilot Program for residential customers in five of the Company's service areas in North Carolina: The Cape; Arbor Run; Bayleaf Master System; Merion; and Pebble Bay.<sup>7</sup> Aqua NC stated the purpose of the proposed pilot is to examine a new rate structure designed to send conservation-inducing price signals to residential customers, while preserving the Company's ability to achieve sufficient and stable cost recovery. As proposed, the Company would implement a new inclining block rate structure.

---

<sup>7</sup> The Cape service area is located in the Fairways Water Rate Division, while the other four service areas are located in the Aqua NC Water Rate Division. Thus, the Company actually proposed to conduct two pilot programs.

31. The focus of Aqua NC's proposed pilot program is to provide rate relief for customers whose usage falls within lower usage blocks and to induce conservation for those customers whose usage falls within higher usage block levels.

32. The five service areas which Aqua proposed to include in its pilot program involve two of the Company's Rate Divisions (Aqua NC Water and Fairways Water). As proposed, the pilot program would include nearly 11,000 premises, covers approximately 13% of the Company's water customers, and include representation in each of Aqua NC's geographical areas. The five pilot water service areas vary significantly in size, consumption volatility, and absolute level of consumption. Each of the five water systems serving the service areas proposed to be part of the pilot is experiencing stress to meet peak demand and could soon require capital investment if conservation is not realized in the near term.

33. For the pilot program, Aqua NC proposed four usage tiers with inclining block rates and separate irrigation rates to be charged to residential water customers in the Arbor Run, Merion, Pebble Bay, and Bayleaf Master System service areas (a portion of the Aqua NC Water Rate Division) and The Cape service area (Fairways Water Rate Division). The Company stated that its pilot program proposal is contingent upon Commission approval of its proposed revenue reconciliation process specific to the pilot areas. According to AquaNC, the purpose of the proposed revenue reconciliation process is to assure that the Company will receive its full authorized revenue requirement, no more and no less.

34. Aqua NC's proposed pilot program considers irrigation rates to the extent the Company was able to do so. The Company has only 1,449 irrigation meters among its more than 80,000 water connections.<sup>8</sup> Some of Aqua NC's customers irrigate through their primary meter connections which do not provide a separate meter reading for the consumption related to irrigation use. Aqua NC's proposed pilot rates assign Block 3 and Block 4 rates for all separate irrigation meter usage; that is, Aqua NC Water customers with irrigation meters would pay the Block 3 charge for their first 15,000 gallons per month and the Block 4 rate for consumption above that threshold. Although Aqua NC is presently unable to assess separately irrigation-related consumption for customers irrigating through primary meters, the Company expects that most irrigation-related consumption would be captured in proposed Blocks 3 and 4 and that this proposed rate structure would provide equitable treatment and similar conservation signals to its irrigation customers regardless of the presence or absence of separate irrigation meters.

35. The Public Staff opposes Aqua NC's proposed pilot program contending that the Company has failed to demonstrate that the program, including the revenue reconciliation process, is reasonable or justified for the purposes of this case.

---

<sup>8</sup> According to the Public Staff's late-filed exhibit filed on July 20, 2020 in this docket, there are three irrigation bills in the Bayleaf Master System service area, one in the Pebble Bay service area, and 478 in The Cape service area.

36. It is reasonable and appropriate for Aqua NC to implement a Conservation Pilot Program in a portion of its Aqua NC Water Rate Division for the approximately 6,530 customers in its Arbor Run, Merion, Pebble Bay, and Bayleaf Master System service areas but not in The Cape service area in its Fairways Water Rate Division.

37. Applying inclining block rates to all of the Company's customers should be analyzed in advance of implementation because there are many variabilities in an inclining block rate structure, from the number and size of the blocks to the various step points and the magnitude of the unit price difference between blocks. An analysis of the impact these variables have on the effectiveness of the new rate structure in promoting water efficiency and conservation should include both an evaluation of the municipal and town water and sewer systems operating in the State that currently utilize inclining block rate structures as well as actual customer reaction and changes in consumption observed through the implementation of Aqua NC's pilot program.

38. Aqua NC should compile monthly consumption data of customer accounts by blocks of per 1,000 gallons to properly design, evaluate, and implement a tiered inclining block rate structure. Aqua NC should file quarterly reports with the Commission on the consumption data and revenue collection related to customers included in the pilot program. The quarterly reports should be filed within 30 days after the end of the quarter.

39. Aqua NC should implement the pilot program for a period of time that allows the Company to accumulate sufficient information to analyze the results of the pilot and to apply such results to designing proposed future rate structures. Consequently, Aqua NC's pilot program should include at least two summer irrigation seasons but should conclude within three years of the implementation date or the effective date of new base rates in a general rate case application, whichever is earlier.

40. There are not presently any tiered rate structures approved for the water and sewer utilities regulated by the Commission. Implementation of tiered inclining block rate structures would be a significant change in rate design for the regulated water and sewer utilities. It is reasonable and appropriate to implement a pilot program in a portion of Aqua NC's Water Rate Division to allow Aqua NC to analyze the results on a smaller scale before designing and applying any one or more final rate designs to the larger population of Aqua NC. The application of a pilot program in a portion of Aqua NC's Water Rate Division should provide the Company, the Public Staff, and the Commission an opportunity to explore the effects of a tiered inclining block rate structure on a variety of customer types in several geographical areas in the State; to make comparisons of actual pilot program results to data pertaining to nonregulated entities (towns, municipalities, etc.) that utilize inclining block rates; to evaluate the feasibility of utilizing inclining block rates rather than Aqua NC's current single-tier rate design structure compared to the resulting benefits in system operations and conservation; and to review Aqua NC's reports of the monthly consumption data of accounts by blocks of 1,000 gallons to ensure that all required information is captured prior to possible full or permanent implementation of inclining block rates in some or all of Aqua NC's service areas.

41. There are approximately 6,000 residential customers on the Bayleaf Master water system and there are less than 800 residential sewer customers. The Bayleaf Master water system customer base is not a uniform group of high-consumption households but rather includes some diversity with respect to water usage. The Bayleaf Master System is a water system with a history of marginally adequate well water capacity during extended periods of high demand that typically occur during hot, dry weather which historically has resulted in heavy lawn and shrub irrigation.

42. Although there is opportunity for both conservation and operational relief with implementation of a pilot program in The Cape service area, it is not appropriate to implement such a program in this proceeding because the metered water rates for the Fairways Water Rate Division are significantly lower in comparison to the Aqua NC's Water and Brookwood Water Rate Divisions and thus will not provide meaningful results to extrapolate across the Company's full customer base in future rate design planning. Further, of the approximately 4,251 customers to be included in The Cape pilot program, the majority of the customers, 2,876 customers, are both water and sewer customers and 1,375 are water-only customers. Consequently, the approval of metered sewer rates for The Cape service area will send a conservation signal to high volume water users through the metered sewer charge. Implementing both metered sewer and an increasing block rate structure would complicate the evaluation and analysis of the pilot program and the proposed revenue reconciliation process.

43. It is reasonable and appropriate that a Conservation Pilot Program be designed to maintain revenue sufficiency and stability for Aqua NC. A revenue reconciliation mechanism is appropriate to support the Company's reasonable opportunity to recover its full Commission-approved revenue requirements despite implementation of a Conservation Pilot Program.

44. For purposes of implementing the Conservation Pilot Program in a portion of the Aqua NC Water Rate Division, a revenue reconciliation process applicable only to the pilot group is in the public interest. It is reasonable and appropriate that a revenue reconciliation process as set forth by the Company be integral to the pilot program; however, such revenue reconciliation process allowed in this docket for this specific purpose is not intended to establish the process by which any future revenue reconciliation for Aqua NC or other regulated utilities related to actual consumption variances from Commission-approved levels in general rate case proceedings as allowed by N.C.G.S. § 62-133.12A will be calculated.

#### ***Utility Plant in Service and Plant Unitization***

45. The Commission entered an Order granting a general rate increase to Aqua NC in Docket No. W-218, Sub 274 on April 8, 2009 (Sub 274 Rate Case Order). In its Sub 274 Rate Case Order, the Commission approved a joint stipulated settlement

(Sub 274 Joint Stipulation) filed by the Public Staff, Aqua NC, and an intervenor party on January 27, 2009, which settled all issues in the case.<sup>9</sup>

46. Paragraph 34 of the Sub 274 Joint Stipulation provided as follows:

Aqua will adopt a consistent, accurate, and complete accounting system for its detailed plant records that maintains its plant records in compliance with the uniform system of accounts. Furthermore, this system should keep plant additions on a system specific basis, as required by the Commission in Docket No. W-274, Sub 251. This should be done before the Company files another general rate case for any of its operations in North Carolina. If Aqua files a general rate case for any of its operations based on a test year in which the plant records have not been brought into compliance, any additional rate case costs due to the inadequate records will not be borne by the ratepayers.<sup>10</sup>

47. Paragraph 37 of the Sub 274 Joint Stipulation provided as follows: "Aqua will review its procedures for determining when projects are completed and should be closed and file its recommended changes to its procedures within 90 days from the date of the order in this case."<sup>11</sup>

48. Paragraph 44 of the Sub 274 Joint Stipulation provided as follows:

Aqua will file a report every three months on the status of its compliance with Items 34 through 43 set forth herein. This report should contain for each item: (1) whether the Company has complied with the item, (2) a detailed description of the steps taken to comply, and (3) if Aqua has not yet complied, the remaining steps to be taken and the expected date of completion.<sup>12</sup>

49. The Company subsequently filed eight quarterly status reports with the Commission in the Sub 274 Rate Case Docket. The first quarterly report was filed on June 30, 2009. In that report, Aqua NC stated, in pertinent part, that:

---

<sup>9</sup> The Attorney General (AGO), who was also a party to the rate case, made a filing on March 13, 2009, which stated that the AGO did not support or oppose the Joint Stipulation and Partial Settlement Agreement filed in the Sub 274 docket and, likewise, did not support or oppose the Joint Proposed Order.

<sup>10</sup> This provision was incorporated by the Commission as Ordering Paragraph No. 8 of the Sub 274 Rate Case Order.

<sup>11</sup> This provision was incorporated by the Commission as Ordering Paragraph No. 12 of the Sub 274 Rate Case Order.

<sup>12</sup> This provision was incorporated by the Commission as Ordering Paragraph No. 18 of the Sub 274 Rate Case Order.

Pursuant to its own commitment and to Commission Order, Aqua is aggressively engaged in the task of consolidating and rationalizing the myriad of accounting systems that exist throughout its 42-county footprint into one, integrated system. This requires extensive coordination and effort, using the resources of both Aqua North Carolina, Inc. and Aqua America, Inc., as well as the engagement of Accenture, a nationally recognized consulting firm. It is a significant, expensive and on-going process—one that is necessary to complete the transition from a host of separate systems to a rationally organized, statewide Company. Additional consultant engagements are required for the studies that Aqua is tasked to complete, which address the impact of volumetric sewer rates and inclining block water rates. The Company is pleased to report that significant progress has been made on all assignments. More remains to be done, and reports on the progress will be made quarterly or as otherwise required. In addition, the Company communicates regularly with the Public Staff on the progress that is being made on these and other activities.

Regarding its compliance with Ordering Paragraph 8 of the Sub 274 Rate Case Order, Aqua NC stated that:

Aqua's expansion in North Carolina has occurred primarily through acquisition of a number of other systems, which has in turn resulted in the existence of records in a wide variety of formats. Reconciliation of disparate systems into new and standardized systems is a major undertaking, as was evidenced by the conversion of numerous customer information systems to Banner. The Company has chosen an asset management system called "Power Plant"<sup>[13]</sup> as the platform for conversion of existing records and for asset tracking in the future. This conversion requires significant support of the North Carolina operation by Aqua America resources in Pennsylvania and other states. After extensive internal accounting work, the conversion to Power Plant is well underway and North Carolina is scheduled to be converted by December 31, 2009. It should also be noted that this is more than a conversion of existing systems. Many of the processes that are integral to the success of the systems are also being evaluated and standardized. Aqua has discussed the status of the project with the Public Staff Accounting Division and they are aware of the steps being taken.

Regarding its compliance with Ordering Paragraph 12 of the Sub 274 Rate Case Order, Aqua NC stated that:

On a monthly basis the Accounting Department sends the Regional Managers a CWIP report for review, with the request that the Managers notify Accounting of projects that are complete and in service. Accounting

---

<sup>13</sup> According to information provided in this rate case proceeding, the asset management software is properly referred to as "PowerPlan".

allows 30 to 60 days for any trailing costs to be charged to these in-service activity numbers before closing the asset. Attention to this process is also part of the scope of work involved in the Accenture engagement. Aqua has discussed the status of the project with the Public Staff Accounting Division and they are aware of the steps being taken. (Note: the work with Accenture is on-going and, in the meantime the described monthly review and cross-check between the Accounting Department and the Regional Managers is in place. Additional information will be provided in the next quarterly report, and Aqua submits this as the report required by July 7, 2009).

50. Aqua NC's second quarterly report was filed on September 29, 2009. In that report, Aqua NC reiterated what it had previously stated with regard to the Company's compliance with Ordering Paragraph No. 8 and added that:

In the interim and prior to full integration of Power Plant, Aqua is maintaining plant records in compliance with the Uniform System of Accounts and is keeping plant additions on a system-specific basis, as required.

Regarding the Company's compliance with Ordering Paragraph No. 12, Aqua NC stated that:

On a monthly basis the Accounting Department sends the Regional Managers a CWIP report for review, requesting that the Managers notify Accounting of projects that are complete and in service. Accounting allows 30 to 60 days for any trailing costs to be charged to these in-service activity numbers before closing the asset. Aqua has discussed the status of the project with the Public Staff Accounting Division, which is aware of the steps being taken.

51. Aqua NC's sixth quarterly report was filed on September 30, 2010. With regard to the Company's compliance with Ordering Paragraph No. 8, Aqua NC stated that:

The "Power Plant" asset management system has been adopted as Aqua's new plant record platform. It is currently being utilized to record and maintain accurate and complete plant records. Historic assets were converted August 27, 2010, with all available system detail. Unitization and recording of plant additions on a system specific basis was initiated in Q2 2010.

Aqua respectfully submits that this constitutes a report of compliance in full with the Commission's Ordering Paragraph #8.

52. On June 29, 2011, the Commission entered an Order Terminating Quarterly Reporting Requirement in Docket No. W-218, Sub 274. In support of its Order, the Commission stated that:

On March 31, 2011, Aqua North Carolina, Inc. (Aqua NC or Company) filed its Eighth Quarterly Status Report as required pursuant to Decretal Paragraph No. 18 of the Commission's April 8, 2009 Order Granting Partial Rate Increase and Requiring Customer Notice, in the above-captioned docket. In said report, Aqua NC requested that the Commission accept such report as the final quarterly report required by the Commission's April 8, 2009 Order<sup>14</sup> or, in the alternative, hold in abeyance any further quarterly reporting requirements pending issuance of the Commission's final Order in Aqua NC's current rate case proceeding, Docket No. W-218, Sub 319.

Public Staff witness Katherine A. Fernald testified under cross-examination at the June 16, 2011 evidentiary hearing in Docket No. W-218, Sub 319, that the Public Staff had reviewed the various reports filed by Aqua NC in response to the Commission's April 8, 2009 Order and opined that such reports have addressed the matters noted in Decretal Paragraph Nos. 8 through 17 of such Order. Furthermore, Public Staff witness Fernald testified that Aqua NC has complied with all of the reporting requirements set forth in Decretal Paragraph No. 18 of the Commission's April 8, 2009 Order.

WHEREUPON, in consideration that Aqua NC has fully complied with all of the reporting requirements set forth in Decretal Paragraph No. 18 of the Commission's April 8, 2009 Order, the Presiding Commissioner finds good cause exists to accept Aqua NC's Eighth Quarterly Status Report as the final quarterly report and to terminate the present quarterly reporting requirements in Docket No. W-218, Sub 274, as requested by the Company.

53. Aqua NC has operated under the PowerPlan accounting system since August 27, 2010, with unitization and recording of plant additions on a system-specific basis having been initiated in the second calendar quarter of 2010. Since that time, Aqua NC has had three general rate cases (Subs 319, 363, and 497) prior to the Company's current Sub 526 rate case. In none of those cases was an allegation raised by any party, including the Public Staff, that Aqua NC's utility plant in service (UPIS) and unitization practices and policies did not conform with the Uniform System of Accounts or that the Company's depreciation practices were deficient in any way.

54. In Aqua NC's past three general rate cases, there was no indication that the accounting issues noted by the Public Staff in the Sub 274 rate case were not fully

---

<sup>14</sup> Aqua NC submitted in its Seventh Quarterly Status Report filed on December 29, 2010, for the quarter ending December 31, 2010, that it had complied with all of the reporting requirements pursuant to Decretal Paragraph No. 18 of the Commission's April 8, 2009 Order. Consequently, Aqua NC noted in its Eighth Quarterly Status Report that the Company has nothing new or additional to report in such quarterly filings which presents the issue of whether the quarterly filing requirement should be terminated. [This footnote was included in the Commission's June 29, 2011 Order].

resolved. In the current Sub 526 rate case, the Public Staff contends that Aqua NC's unitization practices and policies are problematic and not appropriate.

55. Aqua NC's long-standing practice and policy has been that plant additions begin to depreciate on the unitization date, not on the in-service date. The unitization date is the date when the asset is removed from construction work in progress and added to plant in service. According to Aqua NC's internal accounting procedures, a period of 30 to 60 days is allowed for any trailing costs to be charged to the projects before closing the asset to plant in service.

56. Aqua NC's use of the half-year depreciation convention as allowed by Generally Accepted Accounting Principles reasonably serves to minimize the impact of the unitization date during a calendar year being delayed beyond 30 to 60 days for any trailing costs to be recorded.

57. The Public Staff challenges Aqua NC's unitization practices and policies under PowerPlan for some of the Company's utility plant additions in this case and proposes the recognition of additional accumulated depreciation for those challenged projects.<sup>15</sup>

58. The Public Staff maintains that Aqua NC's UPIS practices and policies are applied inconsistently for a majority of the Company's CWIP projects. Aqua NC's accounting practices since the filing of its first quarterly status report per the Sub 274 Joint Stipulation and Rate Case Order have resulted in some assets being closed more than 60 days after the asset's in-service date. In these instances, the Company has on occasion continued to accrue Allowance for Funds Used During Construction (AFUDC) after the asset's in-service date and has frequently postponed the start of depreciation until well after the asset's in-service date. This practice has led to an artificial decrease in accumulated depreciation and corresponding increase in rate base, thereby increasing the return on the unamortized balance of plant in service. The Public Staff takes issue with Aqua NC's unitization dates and the accrual of depreciation when an asset is placed in service in one calendar year but unitization occurs in the next calendar year.

59. Accrual of AFUDC should end on the in-service date of an asset. With respect to depreciation, Aqua NC's current UPIS unitization policy is acceptable if utilized consistently by Aqua NC with strict adherence to a period of 30 to 60 days for any trailing costs to be charged to the projects before closing the asset to plant in-service. Aqua NC should pay particular attention to plant in-service dates occurring near the end of the calendar year such that the one-half year's depreciation expense is recorded in the year the plant is placed in service to the maximum extent possible.

---

<sup>15</sup> Witness Henry states that in Aqua NC's May 1, 2019 WSIC/SSIC application, the Public Staff adjusted accumulated depreciation for plant additions that were reclassified by the Public Staff from 2019 additions to 2018 additions.

60. Aqua NC should conduct a comprehensive review of its current procedures and policies for determining when projects are complete, in-service, and booked to plant in service and file the Company's findings with respect to its internal accounting practices and policies and any plans or recommendations regarding changes in those procedures and policies within 90 days of the date of the Order in this proceeding.

61. Aqua NC's comprehensive review of its UPIS practices and policies should include an analysis of whether the Company can utilize the functionality provided by PowerPlan to book completed but not classified costs on the in-service date and on a continual basis shortly thereafter as invoices are received and paid until the entire project can be unitized to ensure that AFUDC ends and depreciation begins on the in-service date.

62. Until such time that Aqua NC reports to the Commission concerning its prospective UPIS practices and policies to address the issue as to whether the Company can utilize PowerPlan to begin depreciation for an asset as of the in-service date and the Commission renders its decision in this regard, the Company should continue its current policy of ceasing AFUDC accrual as of the plant in-service date and beginning depreciation on the unitization date. Aqua NC should record the CWIP costs to plant in service such that the projects begin depreciating within 30 to 60 days after the in-service date.

### ***Ratemaking and Revenue Requirement Issues***

63. It is reasonable and appropriate to determine the revenue requirement for Aqua NC using the rate base method as allowed by N.C.G.S. § 62-133.

64. By its Application, Aqua NC initially requested a total annual revenue increase in its water and sewer rates of \$6,819,722, an 11.20% increase over the total revenue level generated by the rates currently in effect for the Company.

65. The original cost rate base used and useful in providing service to the Company's customers is \$135,909,809 for Aqua NC Water operations, \$60,371,609 for Aqua NC Sewer operations, \$3,345,093 for Fairways Water operations, \$10,435,206 for Fairways Sewer operations, and \$27,073,706 for Brookwood Water operations, for a total rate base for combined operations of \$237,135,423.

66. The appropriate levels of total operating revenues under present rates for use in this proceeding are \$39,190,819 for Aqua NC Water operations, \$16,457,554 for Aqua NC Sewer operations, \$1,249,860 for Fairways Water operations, \$2,149,107 for Fairways Sewer operations, and \$6,692,049 for Brookwood Water operations, for a total for combined operations of \$65,739,389.

67. Accumulated depreciation consists of the following balances for water and sewer operations:

Aqua NC Water Operations:	\$90,717,400
Aqua NC Sewer Operations:	\$44,951,137
Fairways Water Operations:	\$ 3,544,128
Fairways Sewer Operations:	\$ 2,601,325
Brookwood Water Operations	\$ 9,365,674

68. Contributions in aid of construction (CIAC), reduced by accumulated amortization of CIAC, consist of the following amounts for water and sewer operations:

Aqua NC Water Operations:	\$61,724,928
Aqua NC Sewer Operations:	\$52,124,015
Fairways Water Operations:	\$ 5,819,673
Fairways Sewer Operations:	\$ 5,923,775
Brookwood Water Operations	\$ 2,427,237

69. It is reasonable and appropriate for Aqua NC to recover total rate case expenses of \$985,454 related to the current proceeding to be amortized and collected over a three-year period, for an annual level of rate case expense of \$328,484. As stipulated, this amount does not include a return or carrying costs on the unamortized balance. Unamortized rate case expense from Docket No. W-218, Sub 497 totals \$419,435, and it is reasonable and appropriate for Aqua NC to recover these costs over a three-year period for an annual level of \$139,812. The total annual rate case expense amortization for both dockets is \$468,296.

70. It is reasonable and appropriate to use the current statutory regulatory fee rate of 0.13% to calculate Aqua NC's revenue requirement.

71. It is reasonable and appropriate to use the current state corporate income tax rate of 2.50% and the applicable 21.00% federal corporate income tax rate to calculate Aqua NC's revenue requirement.

72. Aqua NC is entitled to changes in rates that will produce the following levels of total operating revenues, after pro forma adjustments:

	<u>Service Revenues</u>	<u>Other Rev. &amp; Uncollectibles</u>	<u>Total Operating Revenues</u>
Aqua NC Water	\$38,546,489	\$ 644,330	\$39,190,819
Aqua NC Sewer	\$16,426,070	\$ 31,484	\$16,457,554
Fairways Water	\$ 1,159,708	\$ 90,152	\$ 1,249,860
Fairways Sewer	\$ 2,152,586	\$ (3,479)	\$ 2,149,107
Brookwood Water	<u>\$ 6,433,919</u>	<u>\$ 258,130</u>	<u>\$ 6,692,049</u>
Total Aqua NC	\$64,718,772	\$1,020,617	\$65,739,389

These levels of revenues will allow Aqua NC the opportunity to earn a 6.81% overall rate of return, which the Commission has found to be reasonable upon consideration of the findings in this Order.

73. The Commission-approved rates will provide Aqua NC with an increase of \$3,446,081 in its annual level of authorized service revenues through rates and charges approved in this case, consisting of an increase for Aqua NC Water operations of \$1,986,986, an increase for Aqua NC Sewer operations of \$818,431, an increase for Fairways Water operations of \$20,949, a decrease for Fairways Sewer operations of \$37,004, and an increase for Brookwood Water operations of \$656,719. After giving effect to these authorized increases in water and sewer revenues, the total annual operating revenues for the Company will be \$65,739,389, consisting of the following levels of just and reasonable operating revenues:

Aqua NC Water	\$ 39,190,819
Aqua NC Sewer	\$ 16,457,554
Fairway Water	\$ 1,249,860
Fairways Sewer	\$ 2,149,107
Brookwood Water	\$ 6,692,049

#### **Water and Sewer System Improvement Charges**

74. Aqua NC's right to charge a Water System Improvement Charge (WSIC) and a Sewer System Improvement Charge (SSIC) was initially granted by the Commission in Docket No. W-218, Sub 363 by Order issued May 2, 2014.

75. Pursuant to Commission Rules R7-39(k) and R10-26(k), the WSIC and SSIC mechanisms presently in effect are reset at zero as of the date this Order is issued.

76. The Ongoing Three-Year Plan filed by Aqua NC in Docket No. W-218, Sub 497A on March 2, 2020, is reasonable and meets the requirements of Commission Rules R7-39(m) pertaining to WSIC and R10-26(m) pertaining to SSIC.

#### **Customer Concerns – Service and Water Quality-Related Issues**

77. As of December 31, 2019, Aqua NC served approximately 80,978 water customers and 19,583 wastewater customers. Aqua NC owns and operates 741 water systems consisting of over 1,400 wells along with 59 wastewater systems and 203 collection systems across 51 counties in North Carolina.

78. A total of 24 Aqua NC customers testified at the two sessions of the public hearing held August 3, 2020, via Webex. The customers were from 21 subdivisions and 18 different systems. The testimony received during those two sessions of the public hearing covered secondary water quality concerns, customer service concerns, opposition to rate increases, and preferred rate design options.

79. Customer witnesses who testified regarding water quality complained specifically about discolored water, sediment buildup related to iron and manganese concentrations in the water, damage to appliances, intermittent aeration in the water, discoloration of household fixtures, unsatisfactory customer service related to Aqua NC's responsiveness and dissemination of inaccurate and insufficient information regarding such matters as flushing and service outages, and the existence of Total Trihalomethane (TTHM) exceedance in one system. Some customers who complained of water quality issues testified that they do not drink the water supplied by Aqua NC and, instead, purchase bottled water for drinking and cooking. Several customers testified that they have incurred expense to have household filters installed (by non-Aqua NC affiliated vendors) in an effort to improve the quality of water supplied to their homes by Aqua NC. Seven of 24 customers who testified receive their water supply from the Bayleaf Master System.

80. Other specific concerns to which customers testified, which are not water quality related, include the magnitude of the rate increase requested by Aqua NC and the flat-rate sewer methodology rate design. One customer, who testified at the hearing complained that she had not received sufficient notice of the public hearing.

81. As of September 29, 2020, the Commission and Public Staff had received 19 written consumer statements of position which have been filed in Docket No. W-218, Sub 526CS.<sup>16</sup> Customers statements primarily express opposition to Aqua NC's proposed rate increase while a few indicate dissatisfaction with water quality due to secondary water quality issues and the Company's customer service.

82. Aqua NC filed verified reports with the Commission which address the concerns raised by the witnesses at both sessions of the August 3, 2020 customer witness public hearing. The reports also address the issues that appeared to apply across systems and discuss remedial efforts being taken at the system level. The reports address customer specific solutions, explaining that: (a) naturally-occurring iron and manganese are present in the groundwater supply that is the source of water for many of the Company's systems; (b) the levels of iron and manganese in the Company's systems meet applicable regulatory standards and pose no health risk to users; (c) the presence of iron and manganese in the water can cause water discoloration, problems with household appliances, and staining of fixtures and laundry; (d) the Company has employed various strategies to address the elevated levels of iron and manganese in its water systems (e.g., flushing, chemical sequestration, and installation of various filters); and (e) the Company works with the Public Staff and DEQ to devise optimal plans to better address the problem of iron and manganese in the Company's water systems.

83. Though the customers' comments and the evidence, particularly with respect to secondary water quality issues, justify the continuation of efforts to address

---

<sup>16</sup> The number of consumer statements of position received in the current rate case contrasts with Aqua NC's last rate case, (W-218, Sub 497), wherein ninety-three (93) customer statements were filed with the Chief Clerk, between April 16, 2018 and November 15, 2018.

secondary water quality, Aqua NC's performance with respect to secondary water quality and service has continued to improve. Additionally, there were no complaints during the public hearing regarding primary water quality concerns.

### **Quality, Remediation Efforts, Environmental Compliance and Communication**

84. DEQ secondary water quality standards address the acceptable levels of certain constituents, including iron and manganese, in drinking water. Secondary water quality standards serve as guidelines to operators of water systems on keeping these elements, which are not considered to pose health risks, at levels that consumers will not find objectionable for drinking or consuming due to taste, color, and odor effects.

85. While the DEQ secondary water quality standards serve as guidelines to assist water systems in managing water qualities such as taste, color, and odor, they do not purport to address the suitability or acceptability of water for uses other than drinking, cooking, and human ingestion. Separate and apart from health concerns, the degree or magnitude of water taste, color, and odor problems resulting from elevated levels of iron and manganese, which for purposes of health-related issues are sometimes designated and considered "aesthetic" concerns, often adversely impact the usefulness of water supplied and can significantly limit the benefit customers receive from the water service for which they pay. Persistent secondary water quality issues related to elevated concentrations of iron and manganese and customer service issues may also render the quality of service for some customers inadequate for non-consumptive purposes, such as bathing, cleaning, laundry, and use in appliances.

86. Though concerns persist, particularly in certain parts of Aqua NC's service territory regarding secondary water quality, including odor and staining attributes when the secondary elements exist at high levels in the water, the evidence showed significantly increased investment and operational attention to these issues. The Company's efforts are responsive to customer concerns, reflect additional investment and operational diligence, and, if sustained, should support continued improvement in secondary water quality and service.

87. The overall quality of water service provided by Aqua NC is adequate on a company-wide and system-wide basis. The Company meets DEQ's and the United States Environmental Protection Agency's health-based primary quality standards.

88. Operational compliance with environmental laws and regulation is essential to safe, adequate provision of water service. Aqua NC's compliance level with respect to water systems (of which it has over 700) is at the 99.9% level. The Company also achieved a wastewater operations compliance level of approximately 97% in 2018-2019.

89. The overall company-wide and system-wide quality of wastewater service provided by Aqua NC is adequate and the Company operates its wastewater treatment plants in a reasonable and prudent manner.

90. Operational changes and capital improvements should continue as needed to support Aqua NC's success in improving the quality of water in systems affected with elevated levels of iron and manganese.

91. Aqua NC's level and quality of communication with its customers continues to increase and strengthen, as indicated by the testimony of its customers, the substantial decrease over time in customer testimony and written consumer statements, the Company's evidence of its internal improvements, and its outreach to customers. Evidence of Aqua NC's improved communication is found in the development of the Bayleaf Advisory Group, enhancements to the Company's website, hiring of a dedicated staff member to facilitate handling of discolored water quality calls, and deployment of the "Close the Loop" program to assure that an Aqua NC employee contacts every customer who calls with a complaint as a means of follow-up after the customer's call or complaint has been addressed.

### **Regulatory Oversight and Compliance – Reporting Requirements**

92. Aqua NC was subject to a series of filing and reporting requirements under the terms of the Commission's Sub 363 Rate Case Order which were continued in the Commission's Sub 497 Rate Case Order.

93. Ordering Paragraph No. 8 of the Sub 363 Rate Case Order required Aqua NC to file bi-monthly reports addressing water quality concerns raised by customers at the public hearings for 13 systems. Such reports were to describe what was being done by Aqua NC to address water quality issues, and the Sub 363 Rate Case Order included the specific contents required for each of these reports.

94. Ordering Paragraph No. 9 of the Sub 497 Rate Case Order required Aqua NC to continue to file bi-monthly reports addressing water quality concerns raised by customers at the public hearings in Docket No. W-218, Sub 363, in situations where the iron and manganese concerns remain, and in the Sub 497 proceeding, including but not limited to customers served within the Bayleaf Master System. With the exception of the Barton's Creek Bluffs, Lake Ridge Aero Park, and the Coachman's Trail Master System, these bi-monthly reports are no longer required.

95. Ordering Paragraph No. 12 of the Sub 363 Rate Case Order required Aqua NC to communicate to the Public Staff the Company's conversations with, reports to, and receipt of recommendations from DEQ to the Public Staff regarding the water quality concerns being evaluated and addressed in Aqua NC's systems in a timely manner. Such communication was required to be in a written format and provided, at a minimum, on a bi-monthly basis. Aqua NC was required to provide the Public Staff copies of: (a) Aqua NC's reports and letters to DEQ concerning water quality concerns in its systems; (b) responses from DEQ concerning reports, letters, or other oral or written communication received from Aqua NC; and (c) DEQ's specific recommendations to Aqua NC, by system, concerning each of the water quality concerns being evaluated by DEQ.

96. Ordering Paragraph No. 14 of the Sub 497 Rate Case Order required Aqua NC to continue to promptly provide to and share with the Public Staff information concerning all meetings and conversations (in summary note form) with, reports to, and the recommendations of DEQ regarding the water quality concerns being evaluated and addressed in Aqua NC's systems. These communications were not to be considered or treated as formal reports authored by Aqua NC, but rather as notification of the occurrence of communications between the Company and DEQ, as well as the salient topics discussed. They were required to be submitted in a written format; and were to be provided, at a minimum, on a bi-monthly basis until otherwise ordered by the Commission. Without limitation on the foregoing, Aqua NC was required to provide the Public Staff copies of: (a) Aqua NC's reports and letters to DEQ concerning water quality concerns in its systems; (b) responses from DEQ concerning reports, letters, or other oral or written communication received from Aqua NC; (c) DEQ's specific recommendations to Aqua NC, by system, concerning each of the water quality concerns being evaluated by DEQ; and (d) communications from DEQ to Aqua NC indicating DEQ's dissatisfaction with Aqua NC's response to DEQ's concerns, directions or recommendations concerning water quality affected by iron and manganese.

97. The Public Staff has incorrectly interpreted the Commission's written guidance with respect to the above identified reporting requirements to apply to primary water quality concerns. All portions of Ordering Paragraphs 9 and 14 of the Sub 497 Rate Case Order refer to reporting requirements specifically related to secondary water quality issues only – no to primary water quality.

98. Aqua NC should continue to promptly provide to and share with the Public Staff information concerning any and all written communications to and from DEQ that relate to compliance with or deficiencies in compliance with the secondary water quality standards enforced by DEQ. These notifications shall include, but are not limited to, copies of NOV's and written recommendations of DEQ regarding the secondary water quality concerns being evaluated and addressed in Aqua NC's systems. Aqua NC's notice to the Public Staff shall be in writing, include all salient topics and content points, and be provided, at a minimum, on a bi-monthly basis. These notifications shall not be considered or treated as a formal report authored by Aqua NC, but rather as notification of the occurrence of communication between the Company and DEQ. Without limitation on the foregoing, Aqua NC shall provide the Public Staff copies of: (a) Aqua NC's reports and letters to DEQ concerning secondary water quality concerns in its systems; (b) responses from DEQ concerning reports, letters, or other written communication received from Aqua NC related to secondary water quality issues; (c) DEQ's specific recommendations to Aqua NC, by system, concerning each of the secondary water quality concerns being evaluated by DEQ; and (d) written communications from DEQ to Aqua NC indicating DEQ's dissatisfaction with Aqua NC's response to DEQ's concerns, directions or recommendations concerning secondary water quality affected by iron and manganese.

99. The Public Staff and Aqua NC are required to file a written report with the Commission, on March 1 and September 1 each year in which the WSIC is in effect, on secondary quality concerns that are affecting its customers. If a particular secondary water quality concern has affected or is affecting 10% of the customers in an individual subdivision service area or 25 billing customers in an individual service area, whichever

is less, the customers affected and the estimated expenditures that are necessary to eradicate, to the extent practicable, secondary water quality issues related to iron and manganese through the use of projects that are eligible for recovery through the WSIC shall be detailed in the written report. The written report shall also contain a recommendation as to whether the Commission should order Aqua NC to pursue such corrective action and provide an underlying reason why the action should or should not be undertaken. If there are no secondary water issues or if the secondary water quality issues are below the 10% or 25 customer threshold previously set forth, Aqua NC and the Public Staff shall so inform the Commission, but they need not report secondary water quality issues resolved by Aqua NC without the assistance or expectation of assistance of the WSIC.

100. It is not appropriate to change the frequency or nature of the semiannual secondary water quality report requirement, at this time.

### **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 1–5**

#### **General Matters**

The evidence supporting these findings of fact is contained in the verified Application, the NCUC Form W-1, the testimony and exhibits (both prefiled and late-filed) of the witnesses, and the entire record in this proceeding. These findings and conclusions are informational, procedural, and jurisdictional in nature and are not contested by any party.

### **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 6–8**

#### **Rate Case Application and Stipulation**

The evidence supporting these findings of fact is contained in the Stipulation and in the testimony of Aqua NC witnesses Becker, Gearhart, Thill, and D'Ascendis, and Public Staff witnesses Henry, Hinton, and Feasel, and the entire record in this proceeding. Specifically the evidence is found as follows:

- Settlement Exhibit 1, filed with the referenced July 1, 2020 Stipulation;
- Henry Revised Exhibits I and II with supporting schedules (including Feasel Revised Exhibit I with supporting schedules); filed July 7, 2020, which provide sufficient support for the annual revenue required for the issues resolved by the Stipulation;
- Additional Direct Testimony of Shannon Becker found in Transcript Volume 2, filed July 8, 2020;
- Henry Additional Direct Partial Settlement Agreement Exhibit 1;

- Additional Direct Testimony of Windley Henry found in Transcript Volume 4, filed July 9, 2020; and
- Public Staff's Late-filed Exhibits of Windley E. Henry and Charles M. Junis filed on August 17, 2020, which provide supporting schedules and exhibits for the stipulated revenue requirements.

The Stipulation is the product of the give-and-take in settlement between the Stipulating Parties, is material evidence in this proceeding, and is entitled to be given appropriate weight in this case, along with other evidence from Aqua NC, the Public Staff, and the AGO, the other intervening party, along with (consumer statements of position and the sworn testimony of the public witnesses concerning the Company's Application).

The Stipulation settles only some of the disputed issues between the Stipulating Parties. The Unresolved Issues include:

- A. Conservation Pilot Program;
- B. Rate Design;
- C. Reporting Requirements; and
- D. The in-service date of plant and Aqua NC's unitization process.

On July 1, 2020, Aqua NC and the Public Staff filed the Stipulation, which resolved virtually all of the financial issues in this proceeding between them and provided for a revenue requirement increase of approximately \$3,232,954 for combined operations based on the settled issues. The Stipulation is based upon the same test period as Aqua NC's Application, adjusted for certain changes in plant, revenues, and costs that were not known at the time the case was filed but occurred or became known by March 31, 2020.

The key aspects of the Stipulation, Section III, resolved the following revenue requirement issues, as between the Stipulating Parties:<sup>17</sup>

### ***Test Period and Updates***

Pursuant to Section III, Paragraph A of the Stipulation, the test period for this rate case is the 12 months ending September 30, 2019, adjusted for certain changes in plant, revenues, and costs that were not known at the time the case was filed but are based upon circumstances occurring or becoming known through March 31, 2020. The salaries and wages, pensions and benefits, and payroll tax for Aqua NC employees were updated through March 31, 2020, based on the agreement of the Stipulating Parties.

---

<sup>17</sup> The Stipulation filed on July 1, 2020, including Settlement Exhibit 1 to the Stipulation, is incorporated herein by reference. Line references are to Settlement Exhibit 1 to the Stipulation.

### ***Calculation of Revenue Requirement***

Pursuant to Section III, Paragraph B of the Stipulation, the Stipulating Parties agree upon the decrease in the calculation of the revenue requirement in the amount of \$3,543 based on Company amounts [Line 2].

### ***Termination of Updates after March 31, 2020 Update Period***

Pursuant to Section III, Paragraph D of the Stipulation, the Stipulating Parties agree that Aqua NC will not include in the rates to be set in this proceeding the 11 post-test year projects completed after the close of the March 31, 2020 Update Period [Line 5], subject to the following conditions: (1) rates will be set in this proceeding based upon Aqua NC's actual allocated test year costs for Aqua NC Corporate Services and Aqua NC Customer Operations and (2) the Public Staff will not oppose the Company's right to recover the reasonable and prudent costs of the 11 post March 31, 2020 projects in the Company's next rate case or, in the interim, to file a WSIC/SSIC application to recover the costs of any of the post-March 31, 2020 projects which qualify as eligible projects through a surcharge under N.C.G.S. § 62-133.12. The Stipulating Parties agree to the total dollar adjustment on Line 5.

### ***Plant in Service and Accumulated Depreciation Adjustments Related to Reallocation of Vehicles and Post-Test Year Additions***

Public Staff witness Henry states that the majority of the vehicles purchased by Aqua NC during the test period were placed into service in the Aqua NC Water Rate Division although such vehicles are also used to provide utility service in Aqua NC's other rate entities. He updated plant in service along with accumulated depreciation and depreciation expense through March 31, 2020, and then allocated the purchase price of these vehicles, along with the applicable accumulated depreciation and depreciation expense among the various Aqua NC rate entities using the customer allocation percentages calculated by the Company.

Pursuant to Section III, Paragraph E of the Stipulation, the Company accepts the Public Staff's proposed adjustment to reallocate vehicles and accumulated depreciation related to those vehicles as set forth in the testimony of Public Staff witness Henry [Line 6]. Pursuant to Section III, Paragraph H of the Stipulation, the Company accepts the Public Staff's proposed adjustment to accumulated depreciation related to vehicle allocations [Line 9].

Pursuant to Section III, Paragraph F of the Stipulation, the Company accepts the Public Staff's proposed adjustment to post-test year additions to accumulated depreciation which results in an increase of \$96,683 to revenue requirement [Line 7]. Following the filing of its testimony on May 26, 2020, the Public Staff made corrections to its original position for this adjustment. The Company accepted the Public Staff's adjustment, as corrected. This does not include post-test year additions after March 31, 2020.

### ***Accumulated Depreciation Related to Future Customers***

Pursuant to Section III, Paragraph G of the Stipulation, the Company accepts the Public Staff's proposed adjustment to remove accumulated depreciation related to future customers as set forth in the testimony of Public Staff witness Henry [Line 8].

### ***Accumulated Depreciation for WSIC/SSIC "In Service" Date***

Witness Henry states that accumulated depreciation has been adjusted for plant additions that were reclassified by the Public Staff from 2019 additions to 2018 additions in Aqua NC's May 1, 2019, WSIC/SSIC application. Witness Henry explains that there were several construction projects booked to plant in service in the first quarter of 2019 that were actually completed and placed into service in 2018. He further explains that these projects were reclassified to the appropriate months in 2018 in the WSIC/SSIC proceeding, which in effect increases the amount of accumulated depreciation calculated on Aqua NC's investment in each project item. He adjusted accumulated depreciation to include an additional amount of accumulated depreciation that should have been recorded on the Company's books based on the change in the in-service dates.

Pursuant to Section III, Paragraph I of the Stipulation, the Company accepts the Public Staff's proposed adjustment to accumulated depreciation for the WSIC/SSIC in service date which results in a decrease of \$4,455 to revenue requirement [Line 10]. Following the filing of its testimony on May 26, 2020, the Public Staff made corrections to its original position for this adjustment. The Company accepted the Public Staff's adjustment, as corrected.

As discussed in further detail hereinbelow, the Commission finds it appropriate to approve the Stipulation on the adjustment to accumulated depreciation for the WSIC/SSIC in service date in this proceeding, and, therefore, only for the purposes of this rate case proceeding, the Public Staff's adjustment, as corrected, should be reflected.

### ***Post-Test Year Additions to Contributions in Aid of Construction (CIAC)***

Pursuant to Section III, Paragraph J of the Stipulation, the Company accepts the Public Staff's proposed adjustment to post-test year additions to CIAC [Line 11].

### ***Post-Test Year Additions to Accumulated Amortization***

Pursuant to Section III, Paragraph K of the Stipulation, the Company accepts the Public Staff's proposed adjustment to post-test year additions to accumulated amortization – CIAC [Line 12]. Following the filing of its testimony on May 26, 2020, the Public Staff made corrections to its original position for this adjustment. The Company accepted the Public Staff's adjustment, as corrected.

***Post-Test Year Additions Purchase Acquisition Adjustments (PAA).***

Pursuant to Section III, Paragraph L of the Stipulation, the Company accepts the Public Staff's proposed adjustment to post-test year additions PAA [Line 13].

***Mid-South Growth Related PAA***

Pursuant to Section III, Paragraph M of the Stipulation, the Company accepts the Public Staff's proposed adjustment for Mid-South growth-related PAA to March 31, 2020 [Lines 7, 10 and 12].

***Post-Test Year Additions Accumulated Amortization – PAA***

Pursuant to Section III, Paragraph N of the Stipulation, the Company accepts the Public Staff's proposed adjustment to post-test year additions accumulated amortization – PAA [Line 15].

***Advances for Construction***

Pursuant to Section III, Paragraph O of the Stipulation, the Company accepts the Public Staff's proposed adjustment to update advances for construction to March 31, 2020 [Line 16].

***ADIT – Post-Test Year Additions***

Pursuant to Section III, Paragraph P of the Stipulation, the Company accepts the Public Staff's proposed adjustment to ADIT – post-test year additions [Line 17]. This does not include post-test year additions after March 31, 2020.

***ADIT – Unamortized Rate Case Expense***

Pursuant to Section III, Paragraph Q of the Stipulation, the Company accepts the Public Staff's proposed adjustment to ADIT - unamortized rate case expense [Line 18].

***Accumulated Deferred Income Tax (ADIT) – Unamortized Repair Tax Credit***

Pursuant to Section III, Paragraph R of the Stipulation, the Company accepts the Public Staff's proposed adjustment to Adjustment to ADIT - unamortized repair tax credit [Line 19].

***ADIT – Protected Excess Deferred Income Tax and Amortized Excess Deferred Income Tax (EDIT)***

The Commission addressed the appropriate regulatory treatment for the Federal Tax Cuts and Jobs Act (the Tax Act) and State corporate income tax issues for Aqua NC in the Company's last general rate case (Sub 497). In the Sub 497 docket, Aqua NC and

the Public Staff stipulated to all the Tax Act and State EDIT issues, and the Commission approved the Stipulation, which included the following:

- The Company's federal protected EDIT would be amortized over a period of time equal to the expected lifespan of the plant, property, and equipment with which they are associated, in accordance with the normalization rules of the United States Internal Revenue Service (IRS);
- The Company's federal unprotected EDIT would be returned to ratepayers through a levelized rider over a period of three years beginning in January 2019 and ending in December 2021;
- The Company's provisional revenues (which represent the over-collection of federal income taxes in rates related to the decrease in the federal corporate income tax rate from 35.00% to 21.00% for the period beginning January 1, 2018, and corresponding interest, based on the overall weighted cost of capital) would be refunded to ratepayers as a bill credit for a one-year period beginning in January 2019 and ending in December 2019; and
- The Company's State EDIT recorded pursuant to the Commission's Order Addressing the Impacts of HB 998 on North Carolina Public Utilities issued on May 13, 2014, in Docket No. M-100, Sub 138 would be returned to ratepayers through a levelized rider over a three year period beginning in January 2019 and ending in December 2021.

In this proceeding, Aqua NC did not address the issue in its direct testimony since all the tax issues were decided in Sub 497. The Public Staff notes in its direct testimony that Aqua NC did not include the flowback of federal protected EDIT in determining the calculation of its proposed revenue requirement. Specifically, Public Staff witness Boswell recommends in her direct testimony an adjustment to include the return of protected federal EDIT based upon the Company's calculation of the net remaining life of the timing differences, utilizing the Company's current composite tax rate to calculate the annual amortization, net of tax, to be flowed back to ratepayers. Aqua NC witness Gearhart notes in his rebuttal testimony that the Company agrees with the Public Staff's adjustment, therefore Aqua NC and the Public Staff have fully agreed on the treatment of the tax issues in this proceeding. This agreement is outlined in the Stipulation.

During the expert witness hearing, Aqua NC witness Gearhart confirmed in response to questions from Commissioner Brown-Bland that the federal unprotected EDIT rider and the state EDIT rider that were approved by the Commission in the Company's last rate case continue to be flowed back by Aqua NC to customers as riders as was ordered in Sub 497. He further explained that those refunds have been going on since the beginning of 2019 and that as of June 2020, Aqua NC is halfway through the three-year refund period. Witness Gearhart also confirmed that Aqua NC's customers received the full amount of the provisional revenues through the one-year bill credit that the Commission approved in Sub 497. He explained that Aqua NC had a refund target of

\$1.641 million to be refunded during the calendar year 2019. He noted that Aqua NC actually refunded slightly higher than that amount. Witness Gearhart stated that Aqua NC carried over the refund process slightly into 2020, but that Aqua NC actually refunded about \$6,000 more than the original target. Tr. vol. 3, 156-157.

As outlined in Section III, Paragraphs S and FFF of the Stipulation, Aqua NC accepts the Public Staff's proposed adjustment to ADIT - protected EDIT [Line 20]. Further, the Company accepts the Public Staff's proposed adjustment to amortized Excess Deferred Income Taxes (EDIT) [Line 64]. Based on the record, the Commission finds it appropriate to accept the Public Staff and Aqua NC's agreements on this issue.

### ***Customer Deposit Update***

Pursuant to Section III, Paragraph T of the Stipulation, the Company accepts the Public Staff's proposed adjustment to update customer deposits to March 31, 2020 [Line 21].

### ***Excess Capacity Ratemaking Adjustment***

Aqua NC witness Becker states in his direct testimony that Aqua NC did not include an adjustment in its rate case application for excess capacity. He asserts that the Commission should not impose excess capacity disallowances for systems that the Company has acquired or installed. Witness Becker contends that the decisions to construct the three plants for which disallowances have been made in the past were prudent and reasonable, the plants were properly sized, and Aqua NC's investments in these plants on a per connection basis are reasonable. Witness Becker argues that to require Aqua NC to absorb depreciation expense without recovery through rates is inconsistent with the Commission's policy encouraging acquisition of developer owned systems and uniform rates.

Witness Becker states that Aqua NC's system includes 59 wastewater treatment plants (WWTPs) that were acquired through purchases or developer contracts. He contends that these acquisitions have resulted in a reasonable range of average rate base per customer by system and that the resultant consolidated rate bases and capital costs are reasonable.

Public Staff witness Junis states in his direct testimony that Aqua NC did not include any excess sewer plant capacity adjustments in its Application; he further states that this is inconsistent with the Company's previous rate cases going back at least to the Sub 274 rate case in 2009. He explains that the excess capacity adjustment removes a percentage of the plant and accumulated depreciation from the rate base. Witness Junis explains that he does not recommend excess capacity adjustments for all of Aqua NC's overbuilt WWTPs. He offers the example of the Cannonsgate plant which has a calculated overbuilt capacity of 88.80%. No excess capacity adjustment for Cannonsgate is recommended by the Public Staff because the initial construction was fully contributed by the developer. Witness Junis maintains that Aqua NC has assumed avoidable cost and

risk from developers in some of its other systems. He states that without an excess capacity adjustment the existing customers will pay a disproportionate and unfair portion of excess plant to serve future customers.

Witness Junis states that the Commission is open to consideration of other calculation methods. He points to the Commission's statement in Aqua NC's Sub 497 Rate Order requesting more evidence from the parties to support other formulas or methods. In response, witness Junis states that he has considered a formula that is more consistent with North Carolina Department of Environmental Quality (DEQ) regulations; however, using this formula would net the exact same adjustment percentages. For this reason, witness Junis recommends that the Commission continue to use the calculation method established by the Commission in Docket No. W-218, Sub 319, for evaluating the used and useful portions of WWTPs. He states that Aqua NC has used this method in its last three general rate cases.

Witness Junis states that he calculated the excess capacity for the Carolina Meadows, The Legacy at Jordan Lake, and Westfall (also known as Booth Mountain) WWTPs to be 33.03%, 19.67%, and 18.44%, respectively. Witness Junis further contends that Aqua NC has failed to meet its burden of persuasion by not including evidence to justify the omission of excess capacity adjustments. Therefore, witness Junis recommends that the entire balance of plant be subjected to the excess capacity adjustments that he calculates and presents in his testimony. He notes that 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.

Witness Henry describes his adjustments for excess capacity and notes that Aqua NC did not make an excess capacity adjustment to the three WWTPs (specifically, Carolina Meadows, The Legacy at Jordan Lake, and Westfall Subdivision) as was approved by the Commission in the Sub 497 rate case. Witness Henry explains that he started with the plant balances in the Sub 497 rate case to which he added plant additions and removed retirements according to the Company's books since the Sub 497 rate case. He next added back 50% of the Carolina Meadows WWTP additions that were removed in the Sub 497 rate case based on the recommendation of witness Junis. He then depreciated the updated plant in service through March 31, 2020. Finally, he applied witness Junis' recommended excess capacity percentages of 33.03%, 19.67%, and 18.44% for the Carolina Meadows, The Legacy at Jordan Lake, and Westfall WWTPs, respectively, to remove the disallowed portions of plant in service, accumulated depreciation, and CIAC.

Aqua NC witnesses Becker and Pearce provided joint rebuttal testimony on this issue to emphasize important accounting and engineering differences that they find in witness Junis' testimony. Witness Becker addresses key accounting differences while witness Pearce provides a detailed description of the engineering differences with the Public Staff's recommendations.

Witness Becker describes excess capacity as the difference between treatment plant design flow and customer contributory design flows and states there is a significant issue with witness Junis' application of excess capacity adjustments for capital expenses necessary for the continuing compliance for the existing customers of these facilities. Witness Becker points out witness Junis' statement that "the developer of a system bears a majority of the initial cost and risk associated with plant infrastructure to serve future projected growth." Witness Becker contends therefore that any post-acquisition capital costs to ensure compliance should be fully recoverable. Witness Becker contends that application of excess capacity to post-acquisition capital penalizes the Company for continuing to service its customers responsibly and serves as a disincentive to investing in necessary repairs, replacements, and upgrades because the Company knows that a percentage of that cost will be unrecoverable. He refers to the 50% excess capacity adjustment applied to the Carolina Meadows upgrades (\$1.7 million total) in Aqua NC's last rate case and contends that this effectively resulted in an investment exceeding \$250,000 that will never be recovered assuming excess capacity adjustments continue to be allowed and are applied to post-acquisition investments. Witness Becker argues that there are no excess capacity disallowances for developer-installed systems acquired at original costs. He contends that the decisions to construct the plants were reasonable and prudent, the WWTPs were designed according to state standards, and Aqua NC was prudent when it acquired them. He also contends that requiring Aqua NC to take depreciation on its books without actual recovery of the expense is inconsistent with the Commission's policy of encouraging acquisition of developer-owned systems and application of a uniform rate structure. He states that this approach is also a barrier to Aqua NC's opportunity to earn its authorized return.

Witness Becker states that Aqua NC's statewide wastewater system is comprised of 59 WWTPs and divided into two consolidated rate divisions. He notes that the plants were acquired through acquisition or developer contracts and resulted in a footprint of assets and costs per customer that are arranged in two consolidated rate divisions. Witness Becker maintains that Aqua NC Sewer is a consolidated rate division that contains three WWTPs (specifically, Carolina Meadows, The Legacy, and Westfall plants) that have received excess capacity treatment in the past. Witness Becker argues that the elimination of rate base costs for these three WWTPs because reasonably anticipated, planned growth has not occurred in these service areas is inappropriate. Witness Becker states that if excess capacity adjustments are nevertheless determined to be appropriate, then the adjustments should not be applied to post-acquisition repairs, replacements, and upgrades. Witness Becker refers to Aqua NC's Sub 497 Order that states in part that all investments in WWTPs is consolidated into the plant in service account and designations for individual plants are lost for ratemaking purposes.

Witness Becker provides a review of the test year capital expenditures for Carolina Meadows, The Legacy, and Westfall including a breakout of plant expenditures and other infrastructure repairs, replacements, and upgrades necessary to maintain compliance of the systems. He notes that total capital charges for Carolina Meadows were \$216,478 of which \$72,965 or 38% was spent on the plant. He states that, similarly, the total plant capital expenditures for The Legacy and Westfall were both 38% with the remaining 62%

going towards system infrastructure repairs, replacements, and upgrades. Witness Becker argues that it is not proper to reduce rate base capital for expenditures that are not for the treatment plant itself.

Witness Pearce disagrees with witness Junis' method for calculating the design flows for the Carolina Meadows, The Legacy, and Westfall WWTPs and offers an alternative calculation methodology. He contends that his alternative method is more appropriate and that it is consistent with North Carolina design guidelines for wastewater systems established by DEQ in the North Carolina Administrative Code (NCAC).

Witness Pearce contends that the Public Staff has incorrectly calculated the contributory design flow component of the excess capacity calculation resulting in a flawed estimate of excess capacity for the three WWTPs in question. More specifically witness Pearce contends that witness Junis' use of residential equivalency units (REUs) and a generalized estimate of gallons needed to support each REU to calculate contributory design flow is flawed. He states that WWTPs are designed for maximum flow potential based on designed bedrooms per dwelling unit, not REUs. Witness Pearce states that WWTPs are designed to handle the maximum flows for the types of buildings proposed in the development. Witness Pearce contends that the use of REUs and a generalized estimate of 400 gallons per day for each REU results in an overestimation of excess capacity for which the plant was properly designed according to the regulations for design flow in 15A NCAC 02T.0114 - Wastewater Design Flow Rates. Witness Pearce argues that determining contributory design flow based on this code illustrates that the three WWTPs in question should have no excess capacity adjustments.

Witness Pearce further states that witness Junis inaccurately references the Commission's ruling in the Sub 497 Order as the basis for continuing to use the Public Staff's REUs method for calculating excess capacity in this rate case. He states that the Commission instead requested that Aqua NC and the parties present alternative calculation methods if the issue came up in future rate cases. Witness Pearce presents an alternative that replaces the use of REUs and approximation of gallons per day with the metric that is used to size WWTPs.

Witness Pearce opines that the use of water meter size is a poor estimate of contributory wastewater design flow because water meter sizing calculations do not properly estimate the number of bedrooms per residence. He adds that REUs are also a poor approximation for commercial facilities. Witness Pearce points to witness Junis' data request response in which witness Junis references 15A NCAC 18C.0409 – Service Connections<sup>18</sup> as the basis for the water design standard of 400 gallons per connection for a residential service. Witness Pearce notes that the 15A NCAC 18C.0409 regulations are water supply design regulations and that the wastewater treatment design regulations

---

<sup>18</sup> <http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2018%20-%20environmental%20health/subchapter%20c/15a%20ncac%2018c%20.0409.pdf>

are contained in 15A NCAC 02T.0114 – Wastewater Design Flow Rates<sup>19</sup> and they are not equivalent.

Witness Pearce discusses how the determination of excess capacity should be based on the same understanding that was used to design the plant. He notes that the regulations in 15A NCAC 02T.0114 provide prescriptive requirements for plant design such as a 120 gallon per day per bedroom requirement for residential with a 240 gallon per day minimum for each dwelling unit. He states that the code also provides gallon per day values for various commercial uses. He notes that for a residential example, a standard 5/8” meter is typically installed to provide water to the residence. He states that the REU calculation method in this case would result in a 400 gallon per day contributory flow regardless of the size of the home. He explains that if instead the developer planned this as a five-bedroom home the contributory flow would be calculated as 600 gallons per day using the prescriptive 120 gallon per bedroom per day from the wastewater treatment design calculations.

Witness Pearce provides a review of the calculations that Aqua NC prepared for Carolina Meadows, The Legacy, and Westfall that show a contributory design flow that exceeds the design capacity of each plant when calculated using the previously referenced wastewater design regulations from 15A NCAC 02T.0114. The total calculated revenue reduction proposed by the Public Staff is approximately \$190,000 annually using the Public Staff’s REUs and approximate gallons per day method, whereas using the Company’s recommended calculation method results in no adjustment. Witness Pearce argues that reliance on the REUs does not consistently allow for an accurate representation of the number of bedrooms per residence and REUs are a poor approximation for commercial facilities. In his discussion of the actual contributory design flow for the Carolina Meadows Senior Care facility, witness Pearce asserts that the misapplication of REUs in witness Junis’ calculations resulted in a 100,000 gallon per day error that when added to the contributory design flow calculations for the Carolina Meadows plant clearly demonstrates that the WWTP is near design flow capacity. Another example offered by witness Pearce describes where a facility’s REU count was based on a 6-inch wastewater meter resulting in a REU count of 50 whereas a review of water billing data indicates a total of 278 active accounts.

Witness Pearce recommends that no excess capacity adjustments should be made for Carolina Meadows, The Legacy, or Westfall WWTPs because the existing or approaching design flows when calculated according to the NCAC for wastewater systems are greater than the permitted capacities for the WWTPs, and witness Becker concurs.

As outlined in Section III, Paragraph U of the Stipulation, the stipulating parties agree that no excess capacity ratemaking adjustment should be made in this rate case

---

<sup>19</sup> <http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2002%20-%20environmental%20management/subchapter%20t/15a%20ncac%2002t%20.0114.pdf>

related to Aqua NC's wastewater treatment plants which serve the Company's Carolina Meadows, The Legacy, and Westfall service areas [Line 22].

During the expert witness hearing, Public Staff witness Junis stated during his Summary that as part of the give and take of compromise in settlement negotiations, the stipulating parties agreed that no excess capacity adjustment be made in this rate case. Witness Junis noted that the Public Staff is reserving the right to evaluate and recommend excess capacity adjustments as it deems appropriate in future rate cases. Tr. vol. 5, 70.

Also, during the expert witness hearing, Commissioner Clodfelter asked the Public Staff Panel of witnesses Henry and Junis a question about the Stipulation in this case. Commissioner Clodfelter noted that in the Public Staff's original prefiled testimony, there was a proposed excess capacity adjustment for the three wastewater treatment plants that were also the subject of an excess capacity adjustment in Sub 497. Commissioner Clodfelter observed that that proposed adjustment has been withdrawn as outlined in the Stipulation and inquired about what led to that result. Commissioner Clodfelter specifically asked the Panel whether the Public Staff has accepted the Company's position with respect to the methodology for calculating whether or not there is excess capacity with respect to those plants. Witness Junis explained in response to the question that the Stipulation clearly says that the Public Staff reserves the right to take a different position (on any of the issues included in the Stipulation) in future rate cases. When further questioned about why the Public Staff withdrew its position on excess capacity in this case, witness Junis expressed that the withdrawal was a byproduct of give-and-take within the settlement and that the excess capacity was a give and there was take that was also tied to it. Witness Junis agreed that Commissioner Clodfelter should not conclude that the Public Staff has now agreed with the Company's methodology for calculating excess capacity. Tr. vol. 4, 340-341.

The Commission notes that there has been an evolving history on excess capacity adjustments for Aqua NC dating back to at least the Docket No. W-218, Sub 274 rate case in 2009. The Commission has stated the following in past rate cases concerning excess capacity adjustments:

Docket No. W-218, Sub 319 – November 3, 2011 Order Granting Partial Rate Increase, page 30:

In the past the Commission has employed a variety of formulas and methods for making excess capacity adjustments. In this case the only one proposed is the one advocated by Public Staff witness Furr<sup>20</sup>. For reasons stated herein the Commission has used a different calculation<sup>21</sup>.

---

<sup>20</sup> Witness Furr calculated the percent of excess capacity as follows: Percent Excess Capacity = 100 – ((high average monthly flow/90% of plant capacity installed) x 100).

<sup>21</sup> The Commission concluded that the determination of excess capacity should be based upon the number of end-of-period REUs using the standard of 400 gpd per connection which was consistent with the standard outlined in the Commission's June 10, 1994 Order in Docket No. W-354, Sub 128.

Unfortunately Aqua NC presented no evidence as to what, in its view, a reasonable method for making an excess capacity adjustment should be. Should this issue arise in future cases, the Commission could benefit from more evidence from Aqua NC on this point.

Docket No. W-218, Sub 497 – December 18, 2018 Order Approving Partial Settlement Agreement and Stipulation, Granting Partial Rate Increase, and Requiring Customer Notice, page 48:

The Commission reminds the parties that in the past the Commission has employed a variety of formulas or methods for making excess capacity adjustments. The Commission notes that the Company did not present any evidence in this proceeding regarding how to appropriately update its excess capacity percentages or whether future growth projections in the applicable service areas as determined by any available definitive growth documentation, such as housing permits issued, should be factored into such calculations. The Commission advises the parties that should this issue arise in a future rate case proceeding, the Commission requests that more evidence be presented by the parties regarding other formulas or methods for making excess capacity adjustments such that the Commission could determine by the weight of the evidence presented whether future growth projections or any other additional factors should be included in the approved methodology.

In the instant proceeding as summarized above, Aqua NC did in fact present an alternative method to evaluate any potential excess capacity through the testimony of witness Pearce. However, ultimately in this docket, Aqua NC and the Public Staff stipulated that no excess capacity adjustment should be made. Public Staff witness Junis expressly clarified that the Public Staff's entering into the Stipulation did not mean it agreed to Aqua NC's methodology for calculating excess capacity.

Although the Stipulating Parties have reached agreement, the Commission expects a fully developed record on this issue in Aqua NC's next general rate case, including a detailed methodology supported by Aqua NC similar in form to the evidence presented by Aqua NC herein and a detailed response from the Public Staff either supporting such a methodology or providing specific counter arguments against the use of such methodology. In addition, if the Public Staff does not agree with Aqua NC's proposed methodology, the Public Staff should provide detailed evidence supporting any excess capacity calculation or methodology the Public Staff recommends that the Commission adopt. In Aqua NC's next general rate case, the Commission expects that either Aqua NC and the Public Staff will reach a consensus on this issue or that the Commission will be in the position to decide this issue after it is fully litigated by the parties. Based on the record in this proceeding, the Commission finds it appropriate to approve the Stipulation on the adjustments related to excess capacity in this proceeding and, therefore, only for the purposes of this proceeding, no excess capacity ratemaking adjustment should be reflected.

### ***Cash Working Capital***

Pursuant to Section III, Paragraph V of the Stipulation, the Company accepts the Public Staff's proposed adjustment to cash working capital [Line 23].

### ***Tank Painting***

Public Staff witness Henry adjusts the unamortized balances for tank painting for Aqua NC Water, Fairways Water, and Brookwood Water to reflect the balances as of September 30, 2020, the date by which the Public Staff expected a final order to be issued by the Commission. Public Staff Henry Exhibit I, Schedule 2-7, filed on May 26, 2020, sets forth the following amounts on Line 3 for unamortized tank painting balances for Aqua NC Water, Fairways Water, and Brookwood Water: \$640,406, \$26,911, and \$33,695, respectively.

Aqua NC witness Thill disagrees with witness Henry's adjustments to the unamortized balances for tank painting for the Company's three water rate divisions. Witness Thill states that tank painting has been a recognized component of the rate base working capital computation in prior cases and continues to be included in the Public Staff's current proposal. He notes that tank painting occurs on a routine basis and is amortized over a ten-year life. He further notes that the Sub 497 rate case included the full balance of the account in rate base, updated through the end of the post-test year. Witness Thill states that under the Public Staff's current proposal, the Public Staff has modified past practice by amortizing one year of expense from the test-year balance.

Witness Thill notes that one-time working capital components such as rate case expenses do have a year's amortization deducted from the prepaid balance in determining rate base. He explains that the distinction here is that for rate case expenses, the amortizing balance is not increased after the case is completed. He further explains that as time passes, the Company collects reimbursement from customers via the amortization expense component of the revenue requirement, and the prepaid balance reduces accordingly. Witness Thill contends that tank painting is different in that there is a continual requirement for further capital advancement. He notes that in the test year there were \$223,900 in expenditures against only \$151,100 in amortization expense. Witness Thill states that the Company does not believe the Public Staff's proposed change is appropriate and requests that the Commission reaffirm past practice, eliminating the Public Staff's amortization projection and fixing the rate base balance at the post-test year date. Witness Thill maintains that this treatment would appropriately recognize the cost of an ongoing obligation of the Company to advance capital for this long-term operational expense for the benefit of its customers.

Notwithstanding their opposing contentions, pursuant to Section III, Paragraph W of the Stipulation, the Stipulating Parties agreed on the Public Staff's adjustment for tank painting [Line 24]. Public Staff Henry Exhibit I, Schedule 2-7 Revised 8/17/20, filed on August 17, 2020, sets forth the following amounts on Line 3 for the stipulated amount of

unamortized tank painting balances for Aqua NC Water, Fairways Water, and Brookwood Water: \$883,382, \$26,911, and \$245,734, respectively.

Based on the record in this proceeding, the Commission finds it appropriate to approve the Stipulation on the adjustments related to the unamortized balances of tank painting for Aqua NC Water, Fairways Water, and Brookwood Water in this proceeding and, therefore, only for the purposes of this proceeding, the Public Staff's modified method for calculating the unamortized balance of tank painting should be reflected.

### ***Unamortized Rate Case Expense***

Public Staff witness Henry states that in this proceeding the Public Staff has reevaluated the past practice of the water or wastewater utility's unamortized rate case expense balance being included in rate base upon which the utility earns a return. He contends that the Public Staff sees no reason for this practice to continue. Moreover, the Public Staff recommends in this rate case proceeding and all future water or wastewater utility general rate cases that the unamortized rate case expense balance not be included in rate base with the utility earning a return. Witness Henry explains that the unamortized balance would continue to be amortized in the Commission-approved revenue requirement, thereby allowing the Company recovery of the expenses, but not allowing the utility to earn a profit on the rate case expenses.

Witness Henry maintains that this change will provide Commission regulated water or wastewater utilities the same rate case expense treatment as the Commission regulated electric and natural gas utilities which do not earn a return on their unamortized rate case expense balances. Witness Henry states that the customers will pay the Company's rate case expenses, but contends that it is unreasonable for customers to pay the utility a return on equity for regularly occurring expenses that by their nature and magnitude should just be normalized, not treated as a regulatory asset.

Aqua NC witness Thill disagrees with the Public Staff's adjustment to exclude the unamortized rate case expense balances from the working capital component of rate base. Witness Thill first discusses his rationale for including working capital as a component of rate base. He states that the courts have opined, and the Commission has operated in a manner consistent with the philosophy, that "[t]o fix rates that do not allow a utility to recover its costs, including the cost of equity capital, would be an unconstitutional taking". He further states that past Orders of the Commission provide extensive defense of this position and are therefore not recounted in his rebuttal testimony. Witness Thill maintains that a utility is entitled to a fair return on all its property prudently employed for the benefit of its customers. He explains that property, in this context, includes not just utility plant, but also any funds provided by shareholders on behalf of customers. He states that such funds are loosely termed in this circumstance as working capital. He notes that this rationale has been consistently applied in the Company's prior rate cases.

Witness Thill states that, as a firm rule, Aqua NC is against providing interest-free loans. He asserts that to do so willingly would be an imprudent use of shareholder funds, and to be forced to do so would seem to violate the previously quoted Court opinion regarding “unconstitutional taking.” Witness Thill notes that witness Henry contends that the Company should not be allowed to “earn a profit on the rate case expenses”. Witness Thill contends that inclusion of rate case expenses in rate base is not the equivalent of earning a profit. He maintains that the courts have held that a utility is allowed “to recover its costs, including the cost of equity capital”. Witness Thill further maintains that only after consideration of this cost of capital can “profit” be determined. Witness Thill asserts that the Company has already advanced significant sums in support of this rate case and will continue to do so without recovery or return until the Commission’s final order. He notes that when recovery does begin, even if the Commission were to hold consistent with prior practice, the Company would still only recover its cost of funds on two-thirds of the balance (assuming a three-year amortization period) due to the Public Staff’s standard practice of rolling the balance forward a full year resulting in deduction of one year’s amortization from cost of capital recovery in rate base. Witness Thill states that it is the Company’s position that where the Company’s prudent expenditures are not timely offset by recovery in rates, the cost of capital must be recognized in the rate base calculation.

In summary, witness Thill maintains that the inclusion of working capital in rate base is a recognition of the cost of capital prudently employed by the utility for the benefit of its customers. He contends that the courts have long held that a utility is entitled to a fair return on all such property, and the Company submits that obtaining a fair return on that property is an important element in providing the Company with a reasonable opportunity to achieve its authorized return.

Pursuant to Section III, Paragraph X of the Stipulation, the Company accepts the Public Staff’s adjustment to unamortized rate case expense [Line 25]. Public Staff Henry Exhibit I, Schedule 2-7 Revised 8/17/20, filed on August 17, 2020, sets forth the following amounts on Line 4 for the stipulated amount of unamortized rate case expense balances related to the Sub 497 rate case proceeding for Aqua NC Water, Aqua NC Sewer, Fairways Water, Fairways Sewer, and Brookwood Water: \$173,674, \$45,858, \$13,254, \$8,445, and \$38,392, respectively, included in the working capital component of rate base in this proceeding. As stipulated, such amounts do not include the unamortized balance of rate case expense related to the present proceeding.

Based on the record in this proceeding, the Commission finds it appropriate to approve the Stipulation on the adjustment related to the unamortized balance of rate case expense in this proceeding and, therefore, only for the purposes of this proceeding, the unamortized balance of rate case expense for the Sub 497 rate case proceeding should be included in the working capital component of rate base and the unamortized balance of rate case expense related to the current proceeding should not be so included.

### ***Depreciation Study***

Pursuant to Section III, Paragraph Y of the Stipulation, the Company accepts the Public Staff's proposed adjustment to depreciation study [Line 26]. Public Staff Henry Exhibit I, Schedule 2-7 Revised 8/17/20, filed on August 17, 2020, sets forth the following amounts on Line 5 for the stipulated amount of unamortized depreciation study balance for Aqua NC Water, Aqua NC Sewer, Fairways Water, Fairways Sewer, and Brookwood Water: \$23,678, \$5,929, \$1,694, \$1,078, and \$5,313, respectively, included in the working capital component of rate base in this proceeding.

### ***Repair Tax Credit***

Pursuant to Section III, Paragraph Z of the Stipulation, the Company accepts the Public Staff's proposed adjustment to repair tax credit [Line 27]. Public Staff Henry Exhibit I, Schedule 2-7 Revised 8/17/20, filed on August 17, 2020, sets forth the following amounts on Line 6 for the stipulated amount of unamortized repair tax credit balance for Aqua NC Water, Aqua NC Sewer, Fairways Water, Fairways Sewer, and Brookwood Water: \$64,711, \$20,701, \$1,630, \$1,793, and \$10,269, respectively, included in the working capital component of rate base in this proceeding.

### ***Johnston County Unamortized Transmission Charge***

Pursuant to Section III, Paragraph AA of the Stipulation, the Company accepts the Public Staff adjustments to remove the Johnston County unamortized transmission charge and revenue deficit [Lines 28 and 29], consistent with the Commission's decision in the Sub 497 rate case.

### ***Deferred Accounting on Post-Test Year Plan Additions***

In its application Aqua NC requests authorization to defer costs related to capital projects expected to be placed in service during the post-test year period. Aqua NC witness Thill testifies that Aqua NC proposed to defer carrying costs and depreciation on these post-test year projects from the individual project's in-service date until the projects are included for recovery in base rates in the Sub 526 proceeding. Witness Thill states that the deferred balance would be recorded as a regulatory asset, included in rate base and amortized over five years in this rate case.

Witness Thill states that Aqua NC requested authorization to defer carrying costs and depreciation on 246 projects identified for completion during the six months comprising the presumed post-test year period at a cost of \$13.8 million, which he calculated to be an average per project cost of approximately \$56,000. Witness Thill notes that Aqua NC excluded from its deferral request approximately \$7.0 million in anticipated post-test year capital expenditures that Aqua NC has deemed to be routine replacements.

Witness Thill maintains that the impact of the costs, if not deferred, on the Company's authorized rate of return on common equity approved in the Sub 497 rate

case will be significant and material. Witness Thill calculates that implementing these projects will create a drag of 68 basis points on Aqua NC's rate of return on common equity compared to that which was authorized in the Sub 497 rate case. See Thill Direct Exhibit 5 for the calculation of the 68 basis points.

In support of the Company's request, witness Thill testified that the Commission has considered in its past decisions the collective financial impact of various types of projects when determining whether to grant deferral accounting authorization. He states that, for example, in a 2009 Duke Energy Carolinas case, the Commission authorized the utility to use deferral accounting for both environmental compliance costs and the purchase of a portion of the Catawba Nuclear Station. See In the Matter of Petition of Duke Energy Carolinas, Docket No. E-7, Sub 874 (NCUC; Mar. 31, 2009). Witness Thill notes that in another deferral accounting case, the Commission granted deferral accounting treatment for plant additions (the Buck and Bridgewater generation additions) that were projected to produce rate of return on common equity reductions in the absence of deferral accounting treatment. See In the Matter of Duke Energy Carolinas, Docket No. E-7, Sub 999 (NCUC; June 20, 2012).

Witness Thill testifies that the Commission required in DEC Sub 874 case "... a clear and convincing showing that the costs in question were of an unusual and/or extraordinary nature and that, absent deferral, [the costs] would have a material impact on the Company's financial condition." Witness Thill states that Aqua NC's footprint consists of more than 740 developer built, stand-alone systems that require the operation of over 1,400 wells and 59 wastewater plants across the state. He contends that the dispersed nature of Aqua NC's operations is very different than many peers in the electric and gas utility industries in North Carolina, as the majority of water and wastewater systems operated by the Company are autonomous and self-reliant units that typically provide water production and treatment to serve the customers within the confines of that system. Witness Thill maintains that the sheer magnitude of the independent facilities that make up the Company's operational footprint necessitates that the Company's capital spending be divided into hundreds of smaller projects rather than a few large ones.

Witness Thill argues that the total financial impact of this spending on the utility is indifferent to the number of projects that comprise that total spending. He asserts that from the customer's perspective, there is a better argument to recognize the benefit of a multitude of projects impacting a larger share of the customer base rather than individually large projects with a more limited customer impact.

Witness Thill testifies that in this proceeding Aqua NC argues for use of deferral accounting by the Commission as a legitimate tool, accompanied by safeguards, to help avoid degradation of the Company's ability to earn its authorized rate of return on common equity and reduce the resultant increasing frequency of filings for rate relief. Witness Thill contends that to be an effective regulatory tool for the water and wastewater industries, supporting the legitimate goals of full and timely recovery of prudent, necessary expenditures made for the purpose of providing quality service to customers, the application of deferral accounting must include the ability to aggregate expenditures, as

the Commission considers a determination of materiality. He states that this is particularly true if this tool is to apply as effectively to the water and wastewater industry as it does to the electric and natural gas industries, due to the different characteristics of these industries.

Witness Thill states that while the WSIC and SSIC mechanisms do provide a meaningful level of regulatory lag relief between rate cases, the limitations of the cap and on eligible items, combined with the regulatory lag that exists even within those mechanisms, still leave a material hole in the Company's ability to earn its authorized rate of return. He notes that of the Company's \$20.8 million of projected post-test year additions, only \$6.8 million represent WSIC/SSIC eligible projects.

Witness Thill proposes to defer depreciation and accrue carrying costs for qualifying capital expenditures for the time beginning with the individual in-service dates through implementation of new base rates. The deferred balance would be recorded as a regulatory asset, included in rate base and amortized over five years in this rate case. In calculating the deferral amount, depreciation is calculated using Aqua NC's depreciation rates for each asset class as computed in its most recent depreciation study and as approved in its prior rate case. The calculation of carrying costs uses the blended debt/equity rate of 7.165% authorized in Aqua NC's most recent rate case (Sub 497).

Witness Thill states that Aqua NC has also requested "prospective authorization" to defer depreciation and carrying costs on post rate case capital expenditures, other than routine replacements, until included in rates in Aqua NC's next rate case. He states that this request, if approved, would significantly improve the Company's ability to attain its authorized rate of return on common equity and resultantly extend the current anticipated time needed between rate case filings.

Public Staff witnesses Henry and Junis maintain that deferral accounting treatment is a special ratemaking treatment that the Commission has allowed sparingly and only based upon specific criteria. They cite the following Commission Orders in their testimony as examples of Commission's conclusions and decisions concerning deferral accounting requests: Docket Nos. E-7, Sub 874; E-7, Sub 1023; and the recent Carolina Water Services, Inc. of North Carolina (CWSNC) rate case order issued March 31, 2020 in Docket No. W-354, Sub 364. Witnesses Henry and Junis state that the Commission has required "a clear and convincing showing that the costs in question were of an unusual and/or extraordinary nature and that, absent deferral, would have a material impact on the Company's financial condition". DEC Sub 874 Order at 25.

Witnesses Henry and Junis state that Aqua NC admitted in response to Public Staff Data Request No. 84 (See Henry and Junis Exhibit 6), that on an individual basis, none of the costs included in Company's request for deferral accounting treatment are unusual or extraordinary. They state that Aqua NC also admitted in response to that same data request that on an individual basis, none of the costs included in the Company's request for deferral accounting treatment are of a magnitude that would result in a material impact on the Company's financial position.

Witnesses Henry and Junis maintain that the Company's request is premised on the novel argument that the projects and related costs for which Aqua NC seeks deferral accounting treatment should be considered not on an individual basis, but in the aggregate. They note that witness Thill contended when comparing Aqua NC's facilities to those of the state's electric and gas utilities, "[t]he sheer magnitude of the independent facilities that make up the Company's operational footprint necessitates that the Company's capital spending be divided into hundreds of smaller projects rather than a few large ones". Witnesses Henry and Junis assert that witness Thill's contention is false and based on an overly simplified comparison. They maintain that while the electric industry has a limited number of electric generating plants, those plant sites are a complex system of smaller capital assets serving different purposes, such as steam generation, fuel storage, environmental controls, waste management, and safety, in support of providing sufficient and reliable service.

Witnesses Henry and Junis state that, consistent with direction provided by the Commission in its prior decisions on requests for deferral accounting treatment, they assessed the Company's deferral request in the present case by examining whether the Company made a clear and convincing showing that the costs in question are of an unusual or extraordinary nature and would have a material impact on the Company's financial condition absent deferral. According to witnesses Henry and Junis, the Company admitted that its deferral request does not meet this test when the costs in question are considered on an individual basis. However, witnesses Henry and Junis did not stop there, but also evaluated the Company's deferral request based on its aggregated capital expenditures in response to the novel argument advanced by Aqua NC. They maintain that their evaluation of the Company's deferral request based on the aggregate of the projects and costs at issue should not be interpreted by the Commission as endorsement of the Company's novel argument, but instead as a thorough investigation of the Company's proposal.

Witness Junis reviewed the aggregated projects and capital costs characterized by the Company as being "non-routine" to determine whether they were "unusual" or "extraordinary" in nature and outside the scope of Aqua NC's normal course of business. Witness Henry assessed whether the magnitude and impact of the aggregated costs justified deferral, including the impact on earnings, current economic conditions, the Company's need for new investment capital, and the impact that the Commission decision will have on future availability and cost of such capital.

Witnesses Henry and Junis reviewed Aqua NC's recent capital investment history in North Carolina and noted that Aqua NC's capital spending was consistently \$12-14 million per year from 2011 through 2014, that it incrementally increased in 2015 and again in 2016, and that beginning in 2017 it reached a level of \$36-40 million per year, which they state the Company plans to maintain at least through 2021. Witnesses Henry and Junis summarize various observations regarding their review of Aqua NC's plant additions over the past several years including (1) blanket or routine replacements steadily increased by over \$2 million annually from 2015 through 2018, since plateauing in the range of \$11-12 million and being fairly consistently distributed among the rate

entities; (2) non-routine, non-WISC/SSIC spending steadily increased by 30% annually from 2015 through 2017, ballooned into the Sub 497 rate case, and then appear to have returned to the previous upward trajectory in 2019; (3) the WSIC was heavily utilized between rate cases and in the Aqua NC Water Rate Division, likely due to water filtration and treatment projects; (4) the SSIC was consistently utilized in the range of \$986k to \$2.230 million annually; and (5) WSIC/SSIC projects and spending have outpaced non-routine, non-WSIC/SSIC plant additions costs in 2015, 2016, 2019, and 2020. Witnesses Henry and Junis also reviewed the types of plant additions that have occurred over the past several years.

Witnesses Henry and Junis conclude that whether considered individually or in the aggregate, the projects for which Aqua NC seeks deferral accounting treatment are not major non-routine, infrequent, non-regularly occurring, unforeseen investments of considerable complexity and significance for Aqua NC. Further, witnesses Henry and Junis maintain that in general, the Company continues to spend capital on projects such as pipes, pumps, and treatment systems. They state that since the last rate case, there has not been a substantial change in the Company's capital investment prompted by the passing of legislation or adoption of regulations that were transformative for the industry. They note that no new technology has been developed that is a cure all for aging infrastructure or water quality issues. They further note that the capital spending between plant accounts can vary from year to year based on age and deterioration. Witnesses Henry and Junis contend that overall sustained and strategic investment is necessary and has been shown to be consistent in recent years, and that the WSIC/SSIC mechanism addresses lag concerns for nearly half of this investment.

Witnesses Henry and Junis maintain that consideration of costs for deferral on an aggregated basis deemphasizes the nature of the capital expenditures and could even be characterized as an attempt to neutralize a key component of the Commission's longstanding criteria for deferral. Further, they note that there is no overarching "unusual and/or extraordinary" requirement or initiative naturally linking Aqua NC's capital expenditures.

Witnesses Henry and Junis recommend that the Commission deny Aqua NC's requests for deferral accounting based on the absence of "a clear and convincing showing that the costs in question were of an unusual and/or extraordinary nature" whether considered individually or in aggregate. Having reached the conclusion that Aqua NC failed to satisfy the requirement that it make a clear and convincing showing that its plant additions and the related costs are unusual or extraordinary so as to justify deferral accounting treatment, the Public Staff did not reach the issue of whether the costs sought to be deferred would have a material impact on the Company's financial condition or stability.

Witness Thill contends that Aqua NC's request for deferral accounting treatment in this proceeding is a reasonable request, that the Commission has the authority to utilize the tool in this fashion, and that it would be an effective and warranted means to afford Aqua NC a reasonable opportunity to earn its authorized return. Witness Thill maintains

that with the use of deferral accounting, in the manner Aqua NC has requested, a utility like Aqua NC that invests robustly in this state can both make that necessary investment and avoid sacrificing its reasonable financial interests in the process.

Witness Thill states that for the same reasons that Aqua NC has requested authorization for deferral accounting for the post-test year additions, the Company continues to request prospective authorization to defer depreciation and carrying costs on post-rate case capital expenditures, other than routine replacements, until included in rates in Aqua NC's next rate case.

Pursuant to Section III, Paragraph BB of the Stipulation, the Stipulating Parties agree with the Public Staff's proposed adjustment related to deferred accounting on post-test year plant additions [Line 30]. The Stipulating Parties agree to the ratemaking adjustment shown on Line 30. Therefore, for purposes of this proceeding, the Company accepts the Public Staff's rejection of Aqua NC's novel request for aggregated deferral accounting treatment on post-test year plant additions as well as rejection of Aqua NC's request for "prospective authorization" to defer depreciation and carrying costs on post rate case capital expenditures, other than routine replacements, until included in rates in Aqua NC's next rate case. Based on the record in this proceeding, the Commission finds it appropriate to approve the Stipulation regarding Aqua NC's deferral requests and to not allow Aqua NC to defer depreciation and carrying costs on an aggregated level of post-test year plant additions included in this proceeding or to grant prospective authorization to defer depreciation and carrying costs on post rate case capital expenditures until included in rates in the Company's next rate case.

### ***Average Tax Accruals***

Pursuant to Section III, Paragraph CC of the Stipulation, the Company accepts the Public Staff's proposed adjustment to average tax accruals [Line 31]. This adjustment will be updated for the final calculation of unemployment tax, regulatory fee, and property tax.

### ***Service Revenues***

Pursuant to Section III, Paragraph DD of the Stipulation, the Company accepts the Public Staff's proposed adjustment to service revenues [Line 32]. Further, as discussed in detail below, the Company withdraws its application for a conservation normalization factor.

### ***Late Payment Fees***

Pursuant to Section III, Paragraph EE of the Stipulation, the Company accepts the Public Staff's proposed adjustment to late payment fees [Line 33].

### ***Uncollectibles and Abatements***

Pursuant to Section III, Paragraph FF of the Stipulation, the Company accepts the Public Staff's proposed adjustment to uncollectibles and abatements [Line 34].

### ***Capitalized Labor***

Pursuant to Section III, Paragraph GG of the Stipulation, the Company accepts the Public Staff's proposed adjustment to remove capitalized labor [Line 35].

### ***Transportation Regular Payroll***

Pursuant to Section III, Paragraph HH of the Stipulation, the Company accepts the Public Staff's proposed adjustment to add transportation regular payroll [Line 36].

### ***Open Positions and Update to Salaries and Wages***

Pursuant to Section III, Paragraph II of the Stipulation, the Stipulating Parties agree to an adjustment in the amount of (\$222,275) to remove four open positions and to update salaries and wages through March 31, 2020 [Line 37].

### ***Leave Without Pay***

Pursuant to Section III, Paragraph JJ of the Stipulation, the Stipulating Parties agree to an adjustment in the amount of (\$5,043) to remove leave without pay [Line 38].

### ***Standby and Overtime Salaries and Wages***

Pursuant to Section III, Paragraph KK of the Stipulation, the Company accepts the Public Staff's proposed adjustment to reflect actual standby and overtime salaries and wages [Line 39]. Following the filing of its testimony on May 26, 2020, the Public Staff made corrections to its original position for this adjustment. The Company accepted the Public Staff's adjustment, as corrected.

### ***Bonuses Related to Earnings per Share (EPS) and Executive and Board of Directors Compensation, Bonuses and Expenses; Corporate Service and Customer Operation Allocations; Open Positions***

#### *Bonuses Related to Earnings per Share (EPS), Executive and Board of Directors Compensation, Bonuses and Expenses*

In Aqua NC's last general rate case (Sub 497), the Commission made the following Findings of Fact:

64. The Public Staff's proposed accounting adjustment to allocate 30% of North Carolina supervisory employee bonuses in the amount of

\$29,648 to shareholders and thereby exclude those expenses from the cost of service in this case is inappropriate.

65. It is not appropriate to adopt the Public Staff's recommended adjustment to allocate to shareholders 50% of the compensation, including pension and incentive plans, of the top five Aqua America executives totaling \$213,756 in compensation and \$80,845 in pensions and incentive plans.

66. It is appropriate to allocate to shareholders 25% of the compensation, including pension and incentive plans, of the top five Aqua America executives totaling \$106,878 in compensation and \$40,423 in pensions and incentive plans, thereby removing 25% of these expenses from Aqua NC's cost of service.

81. It is not appropriate to adopt the Public Staff's recommended adjustment to allocate to shareholders 50% of the compensation and expenses of the Aqua America Board of Directors totaling \$58,419 in compensation and \$8,691 in expenses.

82. It is appropriate to remove 25% of the Aqua America Board of Directors fees totaling \$29,210 in compensation and \$4,345 in expenses in this proceeding.

### *Bonuses*

In this current rate case proceeding, Public Staff witness Feasel proposes in her direct testimony to remove 17.5% of the bonuses paid to North Carolina employees from expenses and allocate them to the Company's shareholders.

Witness Feasel testifies that the Company's application included bonuses paid to North Carolina employees, including Short-Term Incentive (STI) bonuses, stock options, restricted stock units amortization, and performance share units amortization. She observes that according to Aqua's most recent policies for the STI Plan, 50% of the metric weight depends on financial while 17.5% of the 50% is directly related to Essential Utilities' earnings per share. Witness Feasel contends that earnings per share directly benefit the shareholders' value instead of providing a benefit to the ratepayers. Thus, she removes 17.5% of the bonuses paid to North Carolina employees from expenses and allocates them to the Company's shareholders.

Witness Feasel notes that according to Aqua America, Inc.'s most recent policies for the 2009 Omnibus Equity Compensation Plan, the plan encourages the participants to contribute to the success of the Company, seeks to align the economic interests of the participants with those of the shareholders, and provides a means through which the Company can attract and retain officers, other key employees, nonemployee directors, and key consultants of significant talent and abilities for the benefit of its shareholders

and customers. Thus, witness Feasel removes 50% of the stock options, restricted stock-units amortization, and performance share units amortization paid to North Carolina employees that were allocated from corporate service and Aqua Customer Operations (ACO), and allocated them to the Company's shareholders.

Witness Gearhart states in his rebuttal testimony that he does not agree with Public Staff witness Feasel's proposed adjustment to remove 17.5% of bonuses paid to North Carolina employees as well as 50% of stock options, restricted stock, and performance shares granted to North Carolina employees and to allocate those costs to shareholders. He maintains that the short-term incentive bonuses, stock options, restricted stock and performance shares are part of the total compensation package, paid to attract and retain qualified employees at Aqua North Carolina. He argues that the financial metrics that witness Feasel cites as arguments for this adjustment, reinforce to Aqua employees that it is their responsibility to serve the Company's customers in a prudent and efficient manner. Witness Gearhart asserts that the Company's ability to provide reliable service to its customers is directly related to its financial viability and linking a portion of those employees' compensation to a financial target encourages employees to achieve customer-based objectives in a cost-efficient manner.

Witness Gearhart explains the difference between the Public Staff's proposed adjustments for North Carolina employee bonuses in the Sub 497 rate case and this pending rate case proceeding. He notes that in the Company's 2018 Sub 497 rate case, the Public Staff proposed to allocate 30% of short-term incentive bonuses paid to Aqua supervisory employees. Witness Gearhart states that in this proceeding, the requested adjustment has been expanded to also include stock options, restricted stock, and performance share grants. He asserts that this adjustment has also been expanded to cover these items for all Aqua North Carolina employees; not just supervisors. Witness Gearhart states that Aqua North Carolina non-supervisory employees are eligible for bonuses referred to as "Chairman Awards" and during the test year, these awards were paid to over 100 Aqua North Carolina employees.

Witness Gearhart notes that in the Sub 497 Order, the Commission found that adjustments to supervisory employee bonuses was unreasonable and inappropriate, concluding that approving the Public Staff's position on this issue would send the wrong message to Aqua and its North Carolina supervisory personnel. He asserts that the Commission should deny the Public Staff's request in this proceeding for the same reasons set forth in the Sub 497 Order, especially now that the proposed adjustment would impact all levels of Aqua North Carolina employees.

#### *Executive Compensation*

Witness Feasel adjusts executive compensation in her direct testimony to remove 50% of the total compensation of the top five executives, which is comprised of total annual salary, Short-Term Incentive Plan (STIP), Long Term Incentive Plan (LTIP), and Benefits. She identifies the top five Aqua America executives who have charged compensation to Aqua, including: (1) Chief Executive Officer and President; (2) Executive

Vice President and Chief Financial Officer; (3) Executive Vice President and Chief Operating Officer; (4) Executive Vice President and Chief Strategy and Corporate Development Officer; and (5) Executive Vice President, General Counsel and Secretary. Witness Feasel maintains that her adjustment reflects that the executives' duties and compensation encompass a substantial amount of activities that are closely linked to shareholder interests.

Witness Feasel states that her recommendation is not based on the premise that the compensation of these five executives is excessive or should be reduced. She explains that her recommendation is based on the Public Staff's opinion that it is appropriate and reasonable for the shareholders of the very large water and wastewater utilities to bear some of the cost of compensating those individuals who are most closely linked to furthering shareholder interests, which are not always the same as those of ratepayers.

Witness Feasel notes the various components included in the executives' compensation as discussed on pages 18-22 of her prefiled testimony and recommends that Aqua's executive compensation allocation from Aqua America be allocated 50% to the Aqua America shareholders. She comments that this adjustment is consistent with the positions taken by the Public Staff in past general rate cases involving the electric and natural gas utilities.

Witness Hanley states in his rebuttal testimony that he does not agree with witness Feasel's adjustment to reduce operating costs for executive compensation that includes the removal of 50% of the total compensation of the top five executives, which is comprised of total annual salary, Short-Term Incentive Plan, Long-Term Incentive Plan, and Benefits. He asserts that the Public Staff's position on this issue ignores and fails to follow the prior decision of the Commission, which resolved this issue in the Sub 497 rate case by imposing a 25% adjustment. Witness Hanley maintains that the Public Staff's proposed 50% adjustment is and continues to be excessive and unwarranted. Witness Hanley argues that while Aqua continues to fundamentally disagree with this type of adjustment, at a minimum, the Company contends that the Commission should follow with consistency the decision it employed in the Sub 497 case. Witness Hanley recommends that the Commission reject the Public Staff's adjustment in this regard.

Witness Hanley states that in the Sub 497 Order, the Commission specifically found that it was not appropriate to adopt the Public Staff's recommended adjustment to allocate to shareholders 50% of the compensation, including pension and incentive plans, of the top five Aqua America executives (Finding of Fact No. 65 at 19), and instead, the Commission adopted a 25% adjustment to those expenses (Finding of Fact No. 66). He notes that on page 101 of the Sub 497 Order, the Commission found the Public Staff's proposed adjustment to be unreasonable and not supported by the evidence presented.

Witness Hanley argues that Aqua sets compensation levels for its executives to attract and retain qualified personnel and to remain competitive in the market. He asserts that the efforts of Aqua's executives ultimately benefit customers through controlling costs

and managing a strong overall company, which allows it to attract capital at lower costs. Witness Hanley maintains that this level of management strength and stability is extremely important in 2020 as the country addresses a pandemic, a potential financial crisis, and civil unrest. Witness Hanley further comments that one cannot overstate the importance of maintaining an unerring focus on key aspects of a major utility's responsibilities, including critical service quality for water and wastewater operations, reliability, environmental compliance, and a high level of safety for Aqua's customers and employees. Witness Hanley asserts that Aqua leaders 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 its customers.

Witness Hanley states that Aqua is in a highly regulated business both on the environmental and financial side. He asserts that Aqua leaders are also charged with the responsibility of meeting these standards of providing safe and reliable water and wastewater service to customers served by Aqua in North Carolina. Witness Hanley comments that only then is Aqua granted an opportunity to earn a return on the dollars invested by shareholders. He asserts that the ability of Aqua as a public utility to meet the needs of its customers is the highest priority of all Company employees, as only then will the financial returns be achieved to attract both debt and equity capital needed in the business. Witness Hanley argues that a full compensation package, even for executive compensation, is a necessary part of the Company's overall cost of service to meet the needs of its customers, and a ratemaking adjustment of 50% to Aqua America executive compensation is not warranted.

#### *Board of Directors' Compensation and Expenses*

Witness Feasel proposes in her direct testimony an adjustment to remove 50% of the expenses associated with the Aqua America Board of Directors (BOD) that have been allocated to the Aqua jurisdiction. She comments that Aqua NC does not have a separate BOD. Witness Feasel states that the expenses allocated to the Aqua jurisdiction encompass the BODs' compensation, Directors' and Officers' liability insurance, and other miscellaneous BOD expenses. Witness Feasel testifies that shareholders vote on the election of directors and that the customers do not have a vote. She maintains that based on her review of the responsibilities of the Aqua America BOD, it is clear the BOD is responsible for acting in the best interests of the shareholders.

Witness Feasel testifies that it is appropriate and reasonable for the shareholders of the larger water and wastewater utilities to bear a reasonable share of the costs of compensating those individuals who have a fiduciary duty to protect the interests of shareholders, which may differ from the interests of ratepayers. She asserts that the premise of this adjustment is closely linked to the premise of the adjustment made by the Public Staff related to executive compensation. Witness Feasel further testifies that Directors' and Officers' liability insurance, while a necessary expense for a corporation, is obtained to defend the BOD in lawsuits brought by shareholders for issues such as merger claims and shareholders' derivatives. Witness Feasel recommends that it is

appropriate for both ratepayers and shareholders to equally share the cost of BOD expenses.

Witness Hanley states in his rebuttal testimony that he does not agree with witness Feasel's adjustment to remove 50% of Aqua America's BODs' compensation. He asserts that the Public Staff has decided to relitigate the prior decision of the Commission as explained and adopted in the Sub 497 case. Witness Hanley argues that although parties and the Commission are generally free to change positions from case to case, the rationale imposed in the last rate case served as a guide to the industry and the Public Staff, as well as other intervenors. He asserts that Aqua continues to fundamentally disagree with any ratemaking adjustment here. Witness Hanley notes that in the Sub 497 Order, the Commission reached the following conclusions, in pertinent part, in support of its decision on BOD compensation and expenses:

The Commission generally agrees with Aqua's assertions that adequate compensation is required to attract extremely competent, qualified members of a Board of Directors to lead a company such as Aqua America, Inc. and that North Carolina ratepayers and Aqua America, Inc. shareholders share a mutual interest in a highly skilled and qualified Board. The Commission also generally agrees that ratepayers' best interests depend on a regulated utility's ability to attract capital; in this instance, to support the level of investment required by Aqua as a regulated water and wastewater service provider in this state. As stated by Aqua, these financial and investment decisions are made at the parent company level and are integrally related to and supportive of the local company's ability to provide safe and reliable service. (Sub 497 Order at p. 104)

Witness Hanley maintains that while Aqua disagrees with any adjustment, if the Commission so chooses, the Company asserts that an adjustment of 25% for ratemaking purposes is the maximum adjustment which the Commission should adopt in this case for BOD compensation.

Witness Hanley further states that he does not agree with witness Feasel's adjustment, as reflected in Feasel Exhibit 1 Schedule 7, Lines 4-6, to remove 50% of the miscellaneous expenses (insurance and other fees) associated with the Aqua America BOD. He notes that for the reasons enunciated previously in his rebuttal testimony regarding both executive and Board of Director compensation, the Company requests that the Commission also reject the Public Staff's position on this issue. He notes that as with the executive and BOD compensation issues, if the Commission finds that an adjustment is necessary, Aqua urges the Commission to adhere to the Sub 497 case precedent. He argues that the 50% ratemaking adjustment proposed by the Public Staff is unreasonable and unjustified by the facts presented.

In Section III, Paragraph LL of the Stipulation, the Public Staff agrees to withdraw its proposed adjustment to state bonuses related to EPS [Line 40]. The Stipulation states that this is consistent with the Commission's decision in the Sub 497 rate case.

Further, Section III, Paragraph MM of the Stipulation states, in part, that the Stipulating Parties agree to settle issues related to executive compensation and bonuses and Board of Directors compensation and expenses consistent with the Commission's decision in the Sub 497 rate case by removing 25% of such expenses requested in the Company's application [Lines 41, 59, 60].

Based on the record in this proceeding, the Commission finds it appropriate to approve the Stipulation on the adjustments related to state bonuses related to EPS, executive compensation and bonuses, and Board of Directors compensation and expenses.

With one exception involving Line 42, the Stipulating Parties agree that no further adjustments should be made in this case regarding allocations from Aqua NC Corporate Services (ACS) and Aqua NC Customer Operations (ACO) [Lines 42 and 45]. The Stipulating Parties agree to an adjustment in the amount of (\$92,050) to Line 42 related to open positions and terminations. Based on the record in this proceeding, the Commission determines it is appropriate to approve the Stipulation on allocations for ACS and ACO as well as he agreed upon adjustment related to open positions and terminations.

#### ***Capitalized Pensions and Benefits***

Pursuant to Section III, Paragraph NN of the Stipulation, the Company accepts the Public Staff's proposed adjustment to remove capitalized pensions and benefits [Line 43].

#### ***Open Positions and Benefits***

Pursuant to Section III, Paragraph OO of the Stipulation, the Stipulating Parties agree to an adjustment of (\$122,256) to remove four open positions and to update benefits through March 31, 2020 [Line 44].

#### ***Corporate Sundries***

Pursuant to Section III, Paragraph PP of the Stipulation, the Company accepts the Public Staff's proposed adjustment to remove unqualified benefits from Corporate Sundries [Line 46].

#### ***Fuel for Production***

Pursuant to Section III, Paragraph QQ of the Stipulation, the Company accepts the Public Staff's proposed adjustment to fuel for production [Line 47].

#### ***Sludge Removal***

Pursuant to Section III, Paragraph RR of the Stipulation, the Company accepts the Public Staff's proposed adjustment to sludge removal [Line 48].

### ***Purchased Power***

Pursuant to Section III, Paragraph SS of the Stipulation, the Company accepts the Public Staff's proposed adjustment to purchased power [Line 49].

### ***Materials and Supplies***

Pursuant to Section III, Paragraph TT of the Stipulation, the Company accepts the Public Staff's proposed adjustment to materials and supplies [Line 50].

### ***Testing***

Pursuant to Section III, Paragraph UU of the Stipulation, the Company accepts the Public Staff's proposed adjustment to testing [Line 51].

### ***Contractual Services***

Pursuant to Section III, Paragraph VV of the Stipulation, the Stipulating Parties agree to an adjustment to contractual services – legal [Line 52];

Pursuant to Section III, Paragraph WW of the Stipulation, the Company accepts the Public Staff's adjustment to contractual services – other – pump maintenance [Line 53];

Pursuant to Section III, Paragraph XX of the Stipulation, the Company accepts the Public Staff's proposed adjustment to contractual services–other-corporate sundries [Line 54];

Pursuant to Section III, Paragraph YY of the Stipulation, the Company accepts the Public Staff's proposed adjustment to contractual services-other-accrued expenses [Line 55]. Following the filing of its testimony on May 26, 2020, the Public Staff made corrections to this adjustment. The Company accepted the Public Staff's adjustment, as corrected.

### ***Insurance Expense***

Aqua NC witness Gearhart testifies that Aqua NC requested recovery in this proceeding of the five-year average of actual claims for liability insurance paid for the years 2014-2018. He states that this methodology was used by the Public Staff and approved by the Commission to calculate insurance expense in Aqua NC's previous rate cases. Witness Gearhart states that Aqua NC requested, in conjunction with this treatment for claims, Commission approval to create a deferred regulatory asset or liability for insurance claims paid in excess of (asset) or less than (liability) the authorized annual claim expense as approved by the Commission in this rate case (base level annual claims insurance recovery). He explains that if there is any excess balance (liability) or shortfall (asset) existing at the end of the next test year, that balance will be divided by two and

applied to the base level annual claims insurance recovery amount. He proposed that this method be the recovery approach for all Aqua NC rate cases going forward. Witness Gearhart states that as an alternative, Aqua NC requested recovery for a zero deductible insurance policy for general liability, workers' compensation, and auto insurance.

Public Staff witness Junis strongly opposes these two requests by witness Gearhart asserting that both serve as disincentives to Aqua NC's safety practices. He states that the general liability and auto liability only pay claims when Aqua NC is at fault. Witness Junis maintains that Aqua NC should not be guaranteed recovery from customers for claims payments. He further maintains that the guarantee also serve as a disincentive to Aqua NC to minimize claims. In addition, witness Junis asserts that Aqua NC's guaranteed recovery of all workers' compensation claims would serve as a disincentive to Aqua NC's employee safety education and practices, including the provision of safe workplaces and personal protective equipment such as hard hats, safety glasses, and steel-toed boots. He also contends that the guarantee would be a disincentive for Aqua NC to minimize workers' compensation claims.

Witness Gearhart states that the Public Staff's methodology to calculate the amount of recoverable insurance claims expense has been to utilize a five-year average of actual claims paid. He maintains that as it stands now, using this five-year average methodology, Aqua NC will recover claims expense that will be \$322,000 less than the actual claims amounts charged to Aqua NC in 2020. He notes that Aqua NC has agreed in this case to accept that reduction, but he requests that the approved five-year average, representative of the annual amount of claims paid and allowed in rates, be trued-up to actual claims paid as a regulatory asset or liability to be recovered in future rate cases.

Witness Gearhart disagrees with Public Staff witness Junis' assertion that the establishment of a regulatory asset or liability to recover actual claims paid will be a disincentive to Aqua NC's employee safety education and practices and would be a disincentive to Aqua NC to minimize workers' compensation claims. He states that witness Junis' suggestions are speculative, unfounded, and should be given no weight in deciding the matter at hand. He maintains that Essential Utilities and Aqua NC place an exceptional amount of attention on the safety culture of the utility. He further states that every Essential Utilities' state subsidiary is responsible for safety initiatives and metrics and none of them, aside from Aqua NC, are challenged on their insurance.

Pursuant to Section III, Paragraph ZZ of the Stipulation, the Stipulating Parties agree that the Company's stipulated insurance expense [Line 56] will be subject to a 50% true-up based on actual claims paid as a regulatory asset or liability, without a return or carrying costs, to be recovered in future rate cases. At the expert witness hearing, witness Junis testified that "[t]he Public Staff has no intention of such a true-up mechanism continuing in future rate cases". Tr. vol. 5, 76.

Based on the record in this proceeding, the Commission finds it appropriate to approve the Stipulation on the adjustments related to insurance expense in this proceeding and approves the stipulating parties agreement to a 50% true-up based on

actual claims paid as a regulatory asset or liability, without a return or carrying costs, to be recovered in future rate cases. Such approval of the establishment of a regulatory asset or liability in this proceeding does not establish a precedent for future ratemaking treatment for adjustments to Aqua NC's insurance expense.

### ***Regulatory Commission Expense***

Public Staff witness Henry states that in this proceeding, Aqua NC applied for rate case expenses totaling \$1,044,560 to be amortized over two years, resulting in an annual expense of \$522,280. He notes that included in the total rate case expenses is \$419,435 of unamortized rate case cost from Aqua NC's prior rate case proceeding, Docket No. W-218, Sub 497 (Sub 497), and \$625,125 of estimated rate case costs for this current proceeding. He states that the estimated expenses for this current proceeding include legal fees totaling \$390,625, consultant fees totaling \$50,000, service company capitalized time totaling \$71,000, and other rate case expenses totaling \$113,500, of which \$100,000 is for postage and printing notices to customers. In his prefiled testimony, witness Henry included actual rate case expenses incurred to date based on costs provided by the Company in response to Public Staff data requests. Witness Henry adjusts the actual amount of rate case expense to include an additional amount for printing and mailing notices to customers based on invoices provided by the Company for costs incurred to send the first notice to customers. Witness Henry notes that his adjusted rate case expense for this proceeding is \$410,246, which is less than the Company estimated rate case expense of \$625,125. Witness Henry recommends that the rate case expense for this current proceeding be updated to actual amounts incurred through the hearing date after review of supporting documentation provided by the Company.

Pursuant to Section III, Paragraph AAA of the Stipulation, the Stipulating Parties agree that regulatory commission expense adjustment [Line 57] will be updated to represent actual rate case expenses, plus agreed upon estimated costs to complete the rate case proceeding. The Stipulating Parties also agree with the use of a three-year amortization in this case without a return or carrying costs on the unamortized balance.

In his late-filed exhibits filed on August 17, 2020, witness Henry included the agreed-upon updated level of rate case expense for use in this proceeding. Public Staff Henry Exhibit I, Schedule 3-4 Revised 8/17/20 includes total rate case expenses of \$985,454 related to the current proceeding and unamortized rate case expense from Docket No. W-218, Sub 497 of \$419,435. Witness Henry states that the Public Staff has amortized over three years the rate case expenses of Aqua NC for this proceeding, and has reamortized the unamortized balance of Aqua NC's rate case expenses for prior Aqua NC rate cases over the same period, resulting in total annual rate case expense amortization for both dockets of \$468,296.

Based on the record in this proceeding, the Commission finds it appropriate to approve the Stipulation on the adjustments to rate case expense and include the agreed-upon updated level of rate case expense in this proceeding.

### ***Capitalized Miscellaneous Expense***

Pursuant to Section III, Paragraph BBB of the Stipulation, the Company accepts the Public Staff's proposed adjustment to remove capitalized miscellaneous expense [Line 58].

### ***Miscellaneous Expenses for Corporate Sundries***

Pursuant to Section III, Paragraph CCC of the Stipulation, the Company accepts the Public Staff's proposed adjustment to remove unqualified miscellaneous expenses for corporate sundries [Line 61].

### ***Annualization and Consumption***

Pursuant to Section III, Paragraph DDD of the Stipulation, the Stipulating Parties agree to an adjustment of \$14,150 to annualization and consumption [Line 62].

### ***Contra-OH Allocations***

Pursuant to Section III, Paragraph EEE of the Stipulation, the Company accepts the Public Staff's proposed adjustment to Contra-OH allocations [Line 63].

### ***Payroll Taxes***

Pursuant to Section III, Paragraph GGG of the Stipulation, the Company accepts the Public Staff's proposed adjustment to payroll taxes [Line 65].

### ***Purchased Water Loss***

Aqua NC witness Pearce states in his direct testimony that in Aqua NC's last general rate case an amount of 15% was included for recoverable water losses by the Commission as recommended by the Public Staff. He notes that in its current filing Aqua NC has not included an amount of adjustment for recoverable water losses due to the Company's disagreement with the calculation method used in its last general rate case. Witness Pearce contends that a more appropriate methodology is the use of the Current Annual Real Losses (CARL) method as calculated using the American Water Works Association (AWWA) Water Audit standard. Witness Pearce states that in preparation for this proceeding NC has identified and completed water loss calculations that exceed the 15% allowance approved in its last rate case. He notes that these audits are currently being validated by George Kunkel, a third-party expert. Witness Pearce concludes by stating that CARL is a better long-term approach.

In direct testimony, Public Staff witness Darden discusses in detail the Public Staff's position regarding the appropriate adjustments for purchased water expenses. Witness Darden asserts that the amount of total purchased water expense of \$2,114,412

included in Aqua NC's application is excessive, and instead she recommends an amount of \$2,052,045, or a difference of \$62,367.

Witness Darden argues that use of CARL and water audits is not a dependable substitute for the water loss standard due to the reliance on potentially inaccurate estimates and the absence of a water loss limit or objective. Witness Darden asserts that the appropriate standard for water loss to use in this proceeding is 15% as supported by the AWWA action level and the Commission's findings in the Sub 497 Order.

In rebuttal testimony, witnesses Pearce and Kunkel argue against the Public Staff's recommendations for the appropriate water loss standard to be utilized in this proceeding. Witness Pearce notes that he has extensive experience with leak detection, leak repair, and water loss reduction projects while witness Kunkel offers expertise with the AWWA water loss standards and software application. Witness Kunkel provides details and relevant examples in support of Aqua NC's argument on this issue, including his findings regarding the Chapel Ridge (Town of Pittsboro purchased water) water audit. Witness Pearce reiterates Aqua NC's position that the 15% gross water loss standard recommended by witness Darden is not an appropriate standard and in fact incentivizes a utility to spend in excess of the cost of the water for detection and resolution of water loss issues in some instances. He notes that Aqua NC currently uses the AWWA Water Audit method with performance indicators to prioritize investments in water loss reduction.

Witness Pearce states that witness Darden recommends a reduction of \$62,367 to Aqua NC's purchased water costs, including a disproportionate reduction of \$37,500 from the Town of Pittsboro purchased water expense. He notes that 60% of witness Darden's recommended total purchased water loss reduction is for the Town of Pittsboro purchased water. He comments that Aqua NC purchases water from the Town of Pittsboro for the Chapel Ridge system only. Witness Pearce further states that the Company has spent more than \$135,000 in its efforts to comply with the Public Staff's recommended standard.

Witness Pearce describes the water leak reduction work undertaken by Aqua NC before and since the test period including a professional leak detection assessment and deployment of a District Metering Area (DMA) system pilot test. He maintains that the leak detection assessment involved an acoustic leak detection test for the entire Chapel Ridge system. Witness Pearce states that five leaks were found and repaired, and 24 additional small leaks were found on the customer side of the meter and notices were sent to the customers. Witness Pearce notes that several of the customer side leaks were determined to be due to leaky irrigation backflow devices. He maintains that the total estimated leakage from the five distribution system leaks was 2.35 gallons per minute. He comments that the DMA test pilot divides the system into five sub areas with continuous monitoring and data capture for any atypical flow. Witness Pearce states that the continuous monitoring allows for early detection and repair. Witness Pearce further states that outside of further system pressure reductions (which are inherently risky) or installation of higher accuracy water meters (which are susceptible to tampering), the Company has exhausted all known options for leak reduction in the Chapel Ridge system.

Witness Pearce next discusses losses due to fire department hydrant flushing. He states that during the test period the fire department flushed more than 62,000 gallons with a value of \$848. Witness Pearce contends that flushing should be removed from the purchased water reduction total or the Company should be authorized to assess fire departments for flushing and testing water use. Witness Pearce disagrees with the 15% water loss standard recommended by witness Darden because it ignores Aqua NC's active pursuit of water loss measures and lacks evidence of improper operation or management.

Witness Pearce recommends that Aqua NC be allowed to complete water loss audits and focus on the systems that are performing more poorly and suspend the disallowance of actual purchased water costs incurred. He also recommends no adjustment for the Town of Pittsboro purchased water due to the extensive investigation of the Chapel Ridge system and the demonstrated extremely low leakage rates.

Aqua NC witness Kunkel argues against the continued use of the Public Staff's volumetric percentage performance indicator for determining water loss. He instead recommends that the Commission adopt the AWWA Water Audit method. He discusses multiple advantages of the AWWA model and offers some specific examples. Witness Kunkel refutes witness Darden's claim that the 15% loss standard is based in part on AWWA's recommended action level; a claim that witness Kunkel states is factually inaccurate. He states that AWWA specifically recommends against the use of any kind of percentage indicators in water loss assessment. Witness Kunkel further states that the AWWA characterizes the volumetric percentage indicator method recommended by the Public Staff to be imprecise and unreliable for assessing non-revenue water (NRW) levels. He comments that AWWA offers a best practice through its water audit method and free audit software that allows utilities to reliably quantify water losses and identify achievable and cost-effective reduction goals.

Witness Kunkel elaborates on the factors that lead the AWWA to consider the volumetric percentage performance indicators to be unreliable. Witness Kunkel further describes that the AWWA Water Audit model and the AWWA Free Water Audit Software collectively offer a highly reliable way to quantify water losses and inform cost-effective loss control strategies. He comments that the AWWA Water Audit model uses multiple indicators that represent apparent and real losses and offers a robust means of assessing water efficiency because no water is unaccounted for. Witness Kunkel maintains that the AWWA Free Water Audit software calculates loss volumes, costs of losses, and the performance indicators. He states that the free software features a grading or rating system for the data integrity with a scale of one to ten with one indicating low validity and ten indicating high validity. Witness Kunkel notes that these gradings are used to calculate the Data Validity Score (DVS) with an upper range of 100 and reflects the validity of the water audit. He maintains that the AWWA Water Audit emphasizes that water utilities should focus on volume of losses, cost impacts of losses, and data validity.

Witness Kunkel discusses his detailed validation of the 2019 AWWA water audit for Aqua NC's Chapel Ridge system supplied by the Town of Pittsboro. He comments

that two of the most useful performance indicators in the AWWA Water Audit model are the leakage losses values of gallons per connection per day and gallons per mile of pipeline per day. Witness Kunkel maintains that the expression of gallons/mile/day is especially important for systems with a low density of customer connections per mile of pipeline. Witness Kunkel states that in conducting his validation of the Chapel Ridge audit, he compared the Chapel Ridge loss data for gallons/connection/day and gallons/mile of pipeline/day with the results of 500 validated water audits from California and Georgia. Witness Kunkel asserts that the Chapel Ridge unit rates for apparent and real losses compare with the lowest quartile of the Georgia and California dataset and well below the median values. For additional validation of the Chapel Ridge values, witness Kunkel also evaluated the DMA pilot test and acoustic leak detection studies. Witness Kunkel finds that the apparent and real losses in the Chapel Ridge system are extremely low and efforts to reduce them further are expensive and will likely result in only minimal additional reduction. He contends that this is not a financially prudent requirement to place on Aqua NC for the Chapel Ridge system. Witness Kunkel states that the Chapel Ridge volumetric percentage based on the water audit is 22% as compared to the 15% loss level currently being applied.

The Stipulation filed in this docket states in Section III, Paragraph HHH that Aqua NC and the Public Staff agree to utilize a 15% adjustment for allowable purchased water loss in this case [Line 66]. Further, Paragraph HHH states that Aqua NC and the Public Staff agree to work toward development of a mutually-agreeable standard based upon the methodology for purchased water systems set forth in Aqua NC's Pearce/Kunkle rebuttal testimony for implementation in Aqua NC's next general rate case, and to report the progress of those efforts in the next rate case.

During the expert witness hearing, Chair Mitchell asked the Panel of Public Staff witnesses Henry and Junis questions regarding Paragraph HHH of the Stipulation pertaining to the purchased water loss adjustment. She asked the Panel to describe where the parties are, in terms of coming to some sort of consensus approach on this issue. Chair Mitchell expressed that it is not clear that under the Stipulation the parties are working towards an approach that can be implemented before the next rate case. Witness Junis stated that for the purposes of this rate case, Aqua NC and the Public Staff are utilizing the Public Staff's position as filed in witness Darden's testimony. He noted that on a going-forward basis, as it states in the Stipulation, the parties will work together and in good faith consider the methodology preferred by Aqua NC witnesses Pearce and Kunkel in terms of possibly a leakage per mile or leakage per connection measure, as opposed to the percentage water loss adjustment preferred by the Public Staff. Witness Junis further explained that working through the give-and-take of negotiation and working together collaboratively, the question will be "what do you set as that benchmark." He stated that it is not real clear exactly what that will look like or what that will be but that the Public Staff will certainly consider using the AWWA water audit methodology.

The Public Staff Panel verified in response to Chair Mitchell's questions that the parties will use the information gathered for this rate case. Witness Junis explained that the hope is that Aqua NC and the Public Staff would develop a threshold or benchmark,

whatever that may be, and that the threshold or benchmark would be agreed upon and possibly reported to the Commission prior to Aqua NC's next rate case, or at least for implementation in Aqua NC's next rate case. Tr. vol. 4, 345-347.

Based on the record, the Commission accepts the agreement of the Stipulating Parties to utilize a 15% adjustment for allowable purchased water loss in this case [Line 66]. Further, the Commission instructs the Stipulating Parties to work toward development of a mutually-agreeable standard based upon the methodology for purchased water systems set forth in Aqua NC's Pearce/Kunkle rebuttal testimony for implementation in the Company's next general rate case, and to report on the progress of those efforts to the Commission within nine months of the issuance of this Order. Based upon the record in this docket, the Commission does expect Aqua NC and the Public Staff to come to a consensus recommendation for how purchased water loss will be reflected in Aqua NC's next general rate case proceeding.

### ***Contract Services – Other – Temporary Labor***

Pursuant to Section III, Paragraph III, the Stipulating Parties agree to an adjustment in the amount of \$61,225 to contract services – other – temporary labor [Line 67].

### ***Johnston County Purchased Water and Sewer Rates***

Aqua NC witness Gearhart explains that the test year actual volumes of water purchased were used for all purchased systems and the most recent vendor pricing was applied to that volume.

Witness Gearhart explains three different scenarios regarding purchased wastewater treatment expense. Witness Gearhart states that for the Company's City of Charlotte purchased systems the test year actual volume was used, and the most recent vendor pricing was applied to that volume. He states that charges from Carolina Water Service were adjusted for CWSNC's 2019 rate increase in Docket No. W-354, Sub 360. Witness Gearhart states that a new expense for sending wastewater to Johnston County was added in May 2019 and as a result an adjustment has been made to include a full year of the Johnston County charge into the test year.

Public Staff witness Darden testifies that Aqua NC requested an additional adjustment to purchased water expense in the amount of \$43,431.57 to reflect the impact of a proposed July 2020 rate increase for Johnston County purchased water accounts. Witness Darden states that the Public Staff does not support this adjustment because the rate increase has not yet been approved by the Johnston County Board of Commissioners and is therefore not known and measurable. Tr. vol. 4, 237.

In his direct testimony, Public Staff witness Franklin discusses his review and the Public Staff's recommendations regarding Aqua NC's proposed purchased wastewater expenses and pro forma adjustments. Witness Franklin agrees with Aqua NC's pro forma

adjustments to Aqua NC's purchased wastewater expense except for the additional adjustment in the amount of \$12,868 proposed in its purchased wastewater expense update. Witness Franklin states that the adjustment is made to reflect an anticipated July 2020 rate increase from Johnston County for treatment and transmission charges for Neuse Colony. Witness Franklin argues for the disallowance of the pro forma adjustment for the Johnston County rate increase because the information is based on an email from the Johnston County Public Utilities Director received before the County Manager and the Board of Commissioners had yet approved such rate increase.

Section III, Paragraph JJJ of the Stipulation states that the Public Staff agrees to withdraw its proposed adjustment to the Johnston County purchased sewer rate [Line 68] which was proposed in the Company's Item 18 update filed April 21, 2020, and has since been confirmed by the Public Staff.

During the expert witness hearing, Commissioner Brown-Bland asked the Panel of Public Staff witnesses Henry and Junis questions on this issue for clarification. Commissioner Brown-Bland asked whether the purchased water rate increase imposed by Johnston County effective July 1, 2020 has been reflected in the agreed upon operating expense for purchased water in the Stipulation. Witness Junis responded that for purchased wastewater, it has been but for purchased water, it has not been. He noted that the reason is that, for purchased wastewater, it is not a pass-through rate and that it is included in expenses. Witness Junis noted that for purchased water, it is a pass-through. He stated that instead of changing the rate design and revenue analysis to account for both the pass-through of the rate and also the inclusion in expense, the Public Staff requested Aqua NC to file a pass-through application after the rate case, so that the purchased water rate increase from Johnston County will just be an incremental increase easily captured in a pass-through. Tr. vol. 5, 18-19.<sup>22</sup>

Based on the record in this docket, the Commission finds it appropriate to approve the Stipulation on the purchased sewer rate to reflect the confirmed rate charged by Johnston County as of July 1, 2020.

### ***Rounding Difference***

Pursuant to Section III, Paragraph KKK of the Stipulation, the Company accepts the Public Staff's proposed adjustment to rounding difference [Line 69].

---

<sup>22</sup> The Commission notes in reviewing its dockets that Aqua NC has filed a request to reserve a new docket for the purpose of requesting Commission approval of a pass-through of bulk rate purchases which the Commission assumes will be for the July 1, 2020 Johnston County purchased water rate increase (See Docket No. W-218, Sub 535).

## **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 9–21**

### **Long-term Debt Cost, Capital Structure and Rate of Return on Common Equity**

The evidence supporting these findings of fact and conclusions is contained in the Company's Application and corresponding NCUC Form W-1, the testimony and exhibits of the public witnesses, the direct and rebuttal testimony and exhibits of Company witness D'Ascendis, the direct testimony of Public Staff witness Hinton, the Stipulation, the additional testimony at hearing of Aqua NC witness Becker and Public Staff witness Henry, and the entire record of this proceeding.

The Stipulating Parties agreed to a settlement of these issues, as reflected in the filing of a Stipulation on July 1, 2020, and in consideration of a number of factors, including the impacts of the coronavirus pandemic on customers and the changing economic conditions.

The Stipulating Parties accepted the following as part of the Stipulation (all references are to the lines of Exhibit 1 to the Stipulation):

- the appropriate long-term debt (LTD) cost is 4.21% [Line 3]. The capital structure is 50% long-term debt and 50% common equity, and
- the appropriate rate of return on common equity to use in setting rates in this proceeding is 9.40% [Line 4].

The Stipulating Parties agree that the stipulated capital structure and stipulated levels of overall rate of return and rates of return on common equity and long-term debt are consistent with the requirements of N.C.G.S. § 62-133.

#### ***Rate of Return on Common Equity***

The Commission's consideration of the evidence and decision on this issue is set out below and is organized into three sections. The first is a summary of the record evidence on rate of return on common equity. The second is a summary of the law applicable to the Commission's decision on rate of return on common equity. The third is an application of the law to the evidence and a discussion and explanation of the Commission's ultimate decision on rate of return on common equity.

#### ***Summary of Record Evidence on Rate of Return on Common Equity***

In its Application and in the direct testimony of Aqua NC witness Dylan D'Ascendis, the Company requested approval for its rates to be set using a rate of return on common equity of 10.10%, including adjustments made for Company size and floatation costs. In his rebuttal testimony, witness D'Ascendis increased his recommended rate of return on common equity to 11.00% based upon his updated analyses, also including adjustments for size and floatation cost. Public Staff witness Hinton recommended a rate of return of equity of 8.90% if a Consumption Adjustment Mechanism or CAM is approved by the

Commission, or 9.00% if a CAM is not approved by the Commission. For the reasons set forth herein, the Commission finds that a rate of return on common equity of 9.40% is just and reasonable.

The results derived from witness D'Ascendis' analyses in his direct and rebuttal testimony and witness Hinton's analyses in his direct testimony are as follows:

Summary of D'Ascendis' and Hinton's Common Equity Cost Rate Analyses

	D'Ascendis Direct	D'Ascendis Rebuttal	Hinton Direct
Discounted Cash Flow Model	8.81%	9.07%	8.60%
Risk Premium Model	10.21%	10.56%	9.40%
Capital Asset Pricing Model	9.35%	10.67%	n/a
Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Proxy Group	11.29%	11.28%	n/a
Indicated Common Equity Cost Rate Before Adjustments	9.80%	10.75%	9.00%
Size Adjustment	0.20%	0.20%	n/a
Flotation Cost Adjustment	0.07%	0.05%	n/a
Consumption Adjustment Mech.	n/a	n/a	(0.10%)
Round Up	0.03%	n/a	n/a
Indicated Common Equity Cost Rate after Adjustments	10.07%	11.00%	8.90%
Recommended Common Equity Cost Rate after Adjustments	10.10%	11.00%	8.90%

*Direct Testimony of Dylan W. D'Ascendis (Aqua NC)*

Company witness D'Ascendis recommended in his direct testimony a rate of return on common equity of 10.10%. This 10.10% was based upon his indicated cost of common equity of 9.80%, a recommended size adjustment of 0.20% (as compared with the members of his Utility Proxy Group), and a recommended flotation adjustment of 0.07%. He rounded up his cost of common equity with these adjustments to 10.10%. Tr. vol. 2, 31.

Witness D'Ascendis' recommendation was based upon his Discounted Cash Flow (DCF) model, his Risk Premium Model (RPM), and his Capital Asset Pricing Model (CAPM), applied to market data of a proxy group of an initial proxy group of six publicly-traded water companies that, in his rebuttal testimony, he increased to seven publicly-traded water companies (Utility Proxy Group). He also applied the DCF, RPM, and CAPM to a proxy group of domestic, non-price regulated companies (No-Price Regulated Proxy Group) which he described as comparable in total risk to the Utility Proxy Group.

Witness D'Ascendis testified he used the single-stage constant growth DCF model. He testified his unadjusted dividend yields are based on the proxy companies' dividends as of October 18, 2019, divided by the average of closing market prices for the 60 trading days ending October 18, 2019.<sup>23</sup> He made an adjustment to the dividend yield because dividends are paid periodically, usually quarterly.

For witness D'Ascendis' direct testimony DCF growth rate, he testified he used only analysts' five-year forecasts of earning per share (EPS) growth. He testified the mean result of his application of the single-stage DCF model is 8.73%, the median result is 8.88%, and the average of the two is 8.81% for his Utility Proxy Group. *Id.* at 44.

Aqua NC witness D'Ascendis used two risk premium methods. He testified his first method is the Predictive Risk Premium Model (PRPM), while the second method is an RPM using a total market approach. He testified that the inputs to his PRPM are the historical returns on the common shares of each company in the Utility Proxy Group minus the historical monthly yield on long-term U.S. Treasury securities through September 2019. He testified he added the forecasted 30-year U.S. Treasury Bond yield, 2.64%, to each company's PRPM-derived equity risk premium to arrive at an indicated cost of common equity. He testified his direct testimony mean PRPM indicated common equity cost rate for the Utility Proxy Group is 11.30%, the median is 10.38%, and the average of the two is 10.84%. *Id.* at 47.

Witness D'Ascendis testified his total market approach RPM adds a prospective public utility bond yield to an average of (1) an equity risk premium that is derived from a beta-adjusted total market equity risk premium, and (2) an equity risk premium based on the S&P Utilities Index. He calculated his adjusted prospective bond yield for the Utility Proxy Group to be 4.01%, and the average equity risk premium in his direct testimony to be 5.38% resulting in risk premium derived common equity to be 9.39% for his RPM using his total market approach. *Id.* at 57.

To determine the results of his risk premium method, he testified that in his direct testimony he averaged the PRPM result of 10.84% and the RPM results of 9.39%, and the indicated cost of equity from his risk premium method was 10.12%. *Id.*

For his CAPM, witness D'Ascendis testified he applied both the traditional CAPM and the empirical CAPM (ECAPM) to the companies in his Utility Proxy Group and averaged the results. For his CAPM beta coefficient, he considered two methods of calculation: the average of the Beta coefficients of the Utility Proxy Group companies reported by Bloomberg Professional Services, and the average of the Beta coefficients of the Utility Proxy Group companies as reported by Value Line resulting in a mean beta of 0.64 and a median beta of 0.63. *Id.* at 61.

Witness D'Ascendis testified that the risk-free rate adopted for both applications of the CAPM is 2.64%. This risk-free rate of 2.64% is based on the average of the *Blue*

---

<sup>23</sup> See Schedule DWD-3, page 1, column 1.

*Chip* consensus forecast of the expected yields on 30-year U.S. Treasury bonds for the six quarters ending with the first calendar quarter of 2021, and long-term projections for the years 2021 to 2025 and 2026 to 2030. *Id.* at 62.

Witness D'Ascendis stated that he used three sources of data to determine the risk premium in his CAPM: historical (Ibbotson), Value Line, and Bloomberg, that when averaged, result in an average total market equity risk premium of 9.87%. He testified that the mean result of his CAPM/ECAPM analyses is 9.39%, the median is 9.31%, and the average of the mean and median is 9.35%. *Id.* at 64.

Witness D'Ascendis also selected 10 domestic non-price regulated companies for his Non-Price Regulated Proxy Group that he believes are comparable in total risk to his Utility Proxy Group. He calculated common equity cost rates using the DCF, RPM, and CAPM for the Non-Price Regulated Proxy Group. His direct testimony DCF result was 11.63%, his RPM cost rate was 11.41%, and his CAPM/ECAPM cost rate was 10.44%. Tr. vol. 2, 68.

Witness D'Ascendis also made a 0.20% equity cost rate adjustment due to Aqua NC's small size relative to the Utility Proxy Group. He testified that the Company has greater relative risk than the average company in the Utility Proxy Group because of its smaller size compared with the group, as measured by an estimated market capitalization of common equity for Aqua NC (whose common stock is not publicly-traded).

#### *Direct Testimony of Public Staff Witness Hinton*

Public Staff witness Hinton recommended a rate of return of equity of 8.90% if a CAM is approved by the Commission, or 9.00% if a CAM is not approved by the Commission.

Witness Hinton testified that, according to the April 2020 Mergent Bond Record, Moody's index yields on long-term "A" rated public utility bonds as of April 2020 were 3.50% as compared to 4.37% at December 18, 2018, which is the date the Commission issued the Sub 497 Rate Case Order, setting cost of equity at 9.70%. Witness Hinton further testified that the difference increased to 113 basis points when compared the average 4.63% yield observed during January 2014 at the time of settlement in Docket No. W-218, Sub 363. He further testified that the substantial decrease in long-term bond yields since the last rate case is not indicative of an increase in financing costs for utilities; rather, it portends a lowering of financing costs for long-term capital.

Witness Hinton stated that the much lower current interest rates and stable inflationary environment of today indicate that borrowers are paying less for the time value of money. He testified that this is significant since utility stocks and utility capital costs are highly interest rate-sensitive relative to most industries. Furthermore, given that investors often view purchases of the common stocks of utilities as substitutes for fixed income

investments, the reductions in interest rates observed over the past ten years or more has paralleled the decreases in investor required rates of return on common equity.

Witness Hinton testified that he generally does not rely on interest rate forecasts. Rather, he believes that relying on current interest rates, especially in relation to yields on long-term bonds, is more appropriate for ratemaking in that it is reasonable to expect that as investors are pricing bonds, they are based on expectations on future interest rates, inflation rates, etc. He testified that while he has a healthy respect for forecasting, he is aware of the risk of relying on predictions of rising interest rate cases. He presented a case that can be observed in the testimony of Company witness Ahern in the 2013 Aqua NC rate case. In that case, witness Ahern identified several point forecasts of 30-year Treasury Bond yields that were predicted to rise to 4.30% in 2015, 4.70% in 2016, 5.20% in 2017, and 5.50% for 2020 through 2024. He presented a graph of 30-Year US Treasury Bonds yields which showed in 2016 the range was approximately 2.50% to 3.10%, and in 2017 the range was approximately 2.25% to 3.10%. Tr. vol. 4, 140-41. Witness Hinton testified that he had similar concerns with overestimated forecasts in Witness D'Ascendis Rebuttal Testimony in the Docket No. W-218, Sub 497, where the Blue Chip Consensus Forecasts predicted the 30-year Treasury Bonds would rise to 3.70% by the fourth quarter of 2019, though, according to the Federal Reserve, the highest observed yield on 30-year Treasury Bonds for the fourth quarter of 2019 is 2.43%, a forecast error of 127 basis points. *Id.*

Witness Hinton testified he used the DCF model and the RPM to determine the cost of equity for the Company. He testified that the DCF model is a method of evaluating the expected cash flows from an investment by giving appropriate consideration to the time value of money. The DCF model is based on the theory that the price of the investment will equal the discounted cash flows of return. The return to an equity investor comes in the form of expected future dividends and price appreciation. He testified that as the new price will again be the sum of the discounted cash flows, price appreciation is ignored, and attention is focused on the expected stream of dividends.

Witness Hinton testified that he applied the DCF method to a comparable group of water utilities followed by the *Value Line Investment Survey* (Value Line). He testified that the standard edition of Value Line covers eight water companies. He excluded Consolidated Water Co. because of its significant overseas operations.

Witness Hinton calculated the dividend yield component of the DCF by using the Value Line estimate of dividends to be declared over the next 12 months divided by the price of the stock as reported in the Value Line Summary and Index sections for each week of the 13-week period February 14, 2020 through May 8, 2020. He testified that a 13-week averaging period tends to smooth out short-term variations in the stock prices. This process resulted in an average dividend yield of 1.70% for his proxy group of seven water utilities.

To calculate the expected growth rate component of the DCF, Public Staff witness Hinton employed the growth rates of his proxy group in EPS, dividends per share (DPS),

and book value per share (BVPS) as reported in Value Line over the past ten and five years. He also employed the forecasts of the growth rates of his proxy group in EPS, DPS, and BVPS as reported in Value Line. He testified that the historical and forecast growth rates are prepared by analysts of an independent advisory service that is widely available to investors and should also provide an estimate of investor expectations. He testified that he included both historical known growth rates and forecast growth rates, because it is reasonable to expect that investors consider both sets of data in deriving their expectations.

Witness Hinton incorporated the consensus of various analysts' forecasts of five-year EPS growth rate projections as reported in Yahoo Finance. He testified that the dividend yields and growth rates for each of the companies and for the average for his comparable proxy group are shown in Exhibit JRH-4.

Witness Hinton concluded based upon his DCF analysis that a reasonable expected dividend yield is 1.70% with an expected growth rate of 6.40% to 7.40%. Thus, he testified that his DCF analysis produces a cost of common equity for his comparable proxy group of water utilities of 8.10% to 9.10%. Tr. vol. 4, 151.

Witness Hinton testified that the equity risk premium method can be defined as the difference between the expected return on a common stock and the expected return on a debt security. The differential between the two rates of return are indicative of the return investors require in order to compensate them for the additional risk involved with an investment in the Company's common stock over an investment in the Company's bonds that involves less risk.

Witness Hinton testified that his method relies on approved returns on common equity for water utility companies from various public utility commissions as reported in a RRA Water Advisory, published by the Regulatory Research Associates, Inc. (RRA), a group within S&P Global Market Intelligence (RRA Water Advisory). In order to estimate the relationship with a representative cost of debt capital, he regressed the average annual allowed equity returns with the average Moody's A-rated yields for Public Utility bonds from 2006 through 2020. His regression analysis, which incorporates years of historical data, is combined with recent monthly yields to provide an estimate of the current cost of common equity.

Witness Hinton testified that the use of allowed returns as the basis for the expected equity return has two strengths over other approaches that involve various models that estimate the expected equity return on common stocks and subtracting a representative cost of debt. He stated that one strength of his approach is that authorized returns on equity are generally arrived at through lengthy investigations by various parties with opposing views on the rate of return required by investors. He testified that it is reasonable to conclude that the approved allowed returns are good estimates of the cost of equity.

Witness Hinton testified that the summary data of risk premiums shown on his Exhibit JRH-5, page 1 of 2, indicates that the average risk premium is 5.05% with a maximum premium of 5.97% and minimum premium of 3.73%, which when combined with the last six months of Moody's A-rated utility bond yields produces yields with an average cost of equity of 8.40%, a maximum cost of equity of 9.32%, and a minimum cost of equity of 7.08%. He performed a statistical regression analysis as shown on Exhibit JRH-5, page 2 of 2 in order to quantify the relationship of allowed equity returns and bond costs. He testified that applying the allowed returns to the current utility bond cost of 3.35%, resulted in a cost of equity estimate using the risk premium method of 9.40%. Tr. vol. 4, 153-154.

Witness Hinton concluded that based on all of the results of his DCF model that indicate a cost of equity 8.60%, and the risk premium model that indicates a cost of equity of 9.40%, he determined that the investor required rate of return on common equity for Aqua NC is between 8.60% and 9.40%. He concluded that 9.00% without the CAM, or 8.90% with the CAM is his single best estimate of the Company's cost of common equity. *Id.* at 156.

Witness Hinton testified as to the reasonableness of his recommended return, that he considered the pre-tax interest coverage ratio produced by his cost estimates for the cost of equity. He testified that based on his recommended capital structure, cost of debt, and equity return of 8.90%, the pre-tax interest coverage ratio is approximately 3.7 times. He testified that this tax interest coverage should allow Aqua NC to qualify for a single "A" bond rating. *Id.* at 157.

Witness Hinton testified that his recommended rate of return on common equity takes into consideration the impact of the water and sewer system improvement charges pursuant to N.C.G.S. § 62-113.12 on the Company's financial risk. He testified that these improvement charges are seen by debt and equity investors as supportive regulation that mitigates business risk. Witness Hinton stated that he believes that this mechanism is noteworthy and is supportive of his 8.90% rate of return on common equity recommendation.

Witness Hinton testified that it is not appropriate to add a risk premium to the cost of equity due to the size of the company. He testified that from a regulatory policy perspective, ratepayers should not be required to pay higher rates because they are located in the franchise area of a utility of a size which is arbitrarily considered to be small. He further testified if such adjustments were routinely allowed, an incentive would exist for large existing utilities to form subsidiaries when merging or even to split-up into subsidiaries to obtain higher allowed returns. He further testified that Aqua NC operates in a franchise environment that insulates the Company from competition and it operates with procedures in place that allow for rate adjustments for eligible capital improvements, cost increases, and other unusual circumstances that impact its earnings. Witness Hinton observed that Aqua NC is owned 100% by Essential Utilities. A potential investor cannot purchase Aqua NC stock. All Aqua NC paid in equity capital is infused by Essential Utilities.

### *Rebuttal Testimony of Company Witness D'Ascendis*

In his rebuttal testimony, Company witness D'Ascendis amended his recommended cost of equity to increase to 11.00% for Aqua NC. Witness D'Ascendis disagreed with witness Hinton that an 8.90% common equity rate is appropriate for Aqua NC. Tr. vol. 8, 257. Witness D'Ascendis also disagreed with witness Hinton's exclusion of the CAPM and comparable earnings model (CEM), both of which witness Hinton used as a check on his DCF and RPM in Aqua NC's previous Sub 497 case proceeding. According to witness D'Ascendis, both the academic literature and the Commission support the use of multiple models in determining a rate of return on common equity. Witness D'Ascendis then attempted to supplement what would have been witness Hinton's analysis with a CAPM and CEM, which indicated results of 10.90% and 10.60%, respectively. *Id.* at 270-72.

Witness D'Ascendis objected to witness Hinton's DCF analysis and he also took issue with witness Hinton's use of historical growth rates in EPS, DPS and BVPS as well as his use of projected growth rates in DPS and BVPS. He asserted that it is appropriate to rely exclusively upon security analysts' forecasts of EPS growth rates in a DCF analysis for multiple reasons.

Witness D'Ascendis also disagreed with witness Hinton's application of his RPM because of his use of annual average authorized returns on equity for water companies instead of using individual cases and his use of current interest rates instead of projected interest rates. According to witness D'Ascendis, using current or historical measures, such as interest rates, are inappropriate for cost of capital and ratemaking purposes.

In addition, witness D'Ascendis disagreed with witness Hinton on risk due to size. Witness D'Ascendis emphasized that smaller companies are less able to cope with significant events which affect sales, revenues and earnings. As examples, Witness D'Ascendis indicated that smaller companies face more exposure to business cycles and economic conditions, both nationally and locally; that the loss of revenues from a few large customers would have a far greater effect on a small company than on a larger company with a more diverse customer base; and that smaller companies are generally less diverse in their operations and have less financial flexibility. According to Witness D'Ascendis, consistent with the financial principle of risk and return in his direct testimony, such increased risk due to small size must be taken into account in the allowed rate of return on common equity.

Witness D'Ascendis testified that witness Hinton's corrected cost of common equity analysis results in a common equity cost rate of 10.05% for witness Hinton's comparable group of water utilities before adjustment for Aqua NC's increased risk due to size relative to the proxy group. Tr. vol. 8, 285)

## Law Governing the Commission's Decision on Rate of Return on Common Equity

Rate of return on common equity, also referred to as the cost of equity capital, is often one of the most contentious issues to be addressed in a rate case. In the absence of a settlement agreed to by all parties, the Commission must exercise its independent judgment and arrive at its own independent conclusion as to all matters at issue, including the rate of return on equity. See, e.g., State ex rel. Utils. Comm'n v. Carolina Utils. Customers Ass'n, 348 N.C. 452, 466, 500 S.E.2d 693, 707 (1998). In order to reach an appropriate independent conclusion regarding the rate of return on equity, the Commission should evaluate the available evidence, particularly that presented by conflicting expert witnesses. State ex rel. Utils. Comm'n v. Cooper, 366 N.C. 484, 491-93, 739 S.E.2d 541, 546-47 (2013) (Cooper I). In this case, the evidence relating to the Company's cost of equity capital was presented by Aqua NC witness D'Ascendis and Public Staff witness Hinton. No rate of return on common equity expert evidence was presented by any other party.

The baseline for establishment of an appropriate rate of return on common equity is the constitutional constraints established by the decisions of the United States Supreme Court in *Bluefield Water Works & Improvement Co., v. Pub. Serv. Comm'n of W. Va.*, 262 U.S. 679 (1923) (*Bluefield*), and *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) (*Hope*) which, as the Commission has previously noted, establish that:

To fix rates that do not allow a utility to recover its costs, including the cost of equity capital, would be an unconstitutional taking. In assessing the impact of changing economic conditions on customers in setting an ROE, the Commission must still provide the public utility with the opportunity, by sound management, to (1) produce a fair profit for its shareholders, in view of current economic conditions, (2) maintain its facilities and service, and (3) compete in the marketplace for capital.

DEC Sub 1146 Order at 50; *see also State ex rel. Utils. Comm'n v. Gen. Tel. Co.*, 281 N.C. 318, 370, 189 S.E.2d 705, 738 (1972) (*General Telephone*). As the North Carolina Supreme Court held in *General Telephone*, these factors constitute "the test of a fair rate of return declared" in *Bluefield* and *Hope*. *Id.*

The rate of return on common equity is, in fact, a cost. The return that equity investors require represents the cost to the utility of equity capital.

[T]he cost of capital to the utility is synonymous with the investor's return, and the cost of capital is the earnings which must be generated by the investment of that capital in order to pay its price, that is, in order to meet the investor's required rate of return.

Morin, Roger A., *Utilities' Cost of Capital* 19-21 (Public Utilities Reports, Inc. 1984). "The term 'cost of capital' may [also] be defined as the annual percentage that a utility must

receive to maintain its credit, to pay a return to the owners of the enterprise, and to ensure the attraction of capital in amounts adequate to meet future needs.” Phillips, Charles F., Jr., *The Regulation of Public Utilities* (Public Utilities Reports, Inc. 1993), at 388.

Long-standing decisions of the North Carolina Supreme Court have recognized that the Commission’s subjective judgment is a necessary part of determining the authorized rate of return on common equity. *State ex rel. Utils Comm’n v. Public Staff-N. Carolina Utils. Comm’n*, 323 N.C, 481, 490, 374 S.E.2d 361, 369 (1988) (*Public Staff*). Likewise, the Commission has observed as much in exercising its duty to determine the rate of return on common equity, noting that such determination is not made by application of any one simple mathematical formula:

Throughout all of its decisions, the [United States] Supreme Court has formulated no specific rules for determining a fair rate of return, but it has enumerated a number of guidelines. The Court has made it clear that confiscation of property must be avoided, that no one rate can be considered fair at all times and that regulation does not guarantee a fair return. The Court also has consistently stated that a necessary prerequisite for profitable operations is efficient and economical management. Beyond this is a list of several factors the commissions are supposed to consider in making their Decisions, but no weights have been assigned.

The relevant economic criteria enunciated by the Court are three: financial integrity, capital attraction and comparable earnings. Stated another way, the rate of return allowed a public utility should be high enough: (1) to maintain the financial integrity of the enterprise, (2) to enable the utility to attract the new capital it needs to serve the public, and (3) to provide a return on common equity that is commensurate with returns on investments in other enterprises of corresponding risk. These three economic criteria are interrelated and have been used widely for many years by regulatory commissions throughout the country in determining the rate of return allowed public utilities.

In reality, the concept of a fair rate of return represents a “zone of reasonableness.” As explained by the Pennsylvania commission:

There is a range of reasonableness within which earnings may properly fluctuate and still be deemed just and reasonable and not excessive or extortionate. It is bounded at one level by investor interest against confiscation and the

need for averting any threat to the security for the capital embarked upon the enterprise. At the other level it is bounded by consumer interest against excessive and unreasonable charges for service.

As long as the allowed return falls within this zone, therefore, it is just and reasonable . . . . It is the task of the commissions to translate these generalizations into quantitative terms.

Charles F. Phillips, Jr., *The Regulation of Public Utilities*, 3d ed. 1993, pp. 381-82. (notes omitted)

Order Granting General Rate Increase, *Application of Carolina Power & Light Company, d/b/a Progress Energy Carolinas, Inc., for Adjustment of Rates and Charges Applicable to Electric Utility Service in North Carolina*, No. E-2, Sub 1023, at 35-36 (N.C.U.C. May 30, 2013), *aff'd, State ex rel. Utils. Comm'n v. Cooper*, 367 N.C. 444, 761 S.E.2d 640 (2014) (2013 DEP Rate Case Order) (additions and omissions after the first quoted paragraph in original).

Moreover, in setting rates the Commission must not only adhere to the dictates of both the United States and North Carolina Constitutions, but, as has been held by the North Carolina Supreme Court, it must set rates as low as possible consistent with constitutional law. *Public Staff*, 323 N.C. 481, 490, 374 S.E.2d 361, 370 (1988). Further, the North Carolina General Assembly has provided that the Commission must also set rates employing a multi-element formula set forth in N.C.G.S. § 62-133. The formula requires consideration of elements beyond just the rate of return on common equity element, and it inherently necessitates that the Commission make many subjective determinations, in addition to the subjectivity required to determine the rate of return on common equity. The subjective decisions the Commission must make as to each of the elements of the formula can and often do have multiple and varied impacts on all of the other elements of the formula. In other words, the formula elements are intertwined and often interdependent in their impact to the setting of just and reasonable rates.

The fixing of a rate of return on the cost of property used and useful to the provision of service (as determined through the end of the historic 12-month test period prior to the proposed effective date of a requested change in rates, and adjusted for proven changes occurring up to the close of the expert witness hearing) is but one of several interdependent elements of the statutory formula to be used in setting just and reasonable rates. See N.C.G.S. § 62-133. North Carolina General Statute § 62-133(b)(4) provides in pertinent part that the Commission shall:

Fix such rate of return on the cost of the property . . .as will enable the public utility by sound management [1] to produce a fair return for its shareholders, *considering changing economic conditions and other factors* . . .[2] to maintain its facilities and services in accordance with the reasonable

requirements of its customers in the territory covered by its franchise, and [3] to compete in the market for capital funds on terms that are reasonable and that are fair to its customers and to its existing investors. [Emphasis added.]

The North Carolina Supreme Court has interpreted the above-emphasized language as requiring the Commission to make findings regarding the impact of changing economic conditions on customers when determining the proper rate of return on common equity for a public utility. *Cooper I*, 366 N.C. at 495, 739 S.E.2d at 548. The Commission must exercise its subjective judgment so as to balance two competing rate of return on common equity-related factors—the economic conditions facing the Company’s customers and the Company’s need to attract equity financing on reasonable terms in order to continue providing safe and reliable service. 2013 DEP Rate Case Order at 35-36. The Commission’s determination in setting rates pursuant to N.C.G.S § 62-133, which includes the fixing of the rate of return on common equity, always takes into account affordability of public utility service to the using and consuming public. The impact of changing economic conditions on customers is embedded in the testimony of expert witnesses regarding their analyses of the rate of return on common equity using various economic models widely used and accepted in utility regulatory rate-setting proceedings. 2013 DEP Rate Case Order, at 38. Further,

[t]he Commission always places primary emphasis on consumers’ ability to pay where economic conditions are difficult. By the same token, it places the same emphasis on consumers’ ability to pay when economic conditions are favorable as when the unemployment rate is low. Always there are customers facing difficulty in paying utility bills. The Commission does not grant higher rates of return on common equity when the general body of ratepayers is in a better position to pay than at other times . . . .

*Id.* at 37. Economic conditions existing during the modified test year, at the time of the public hearings, and at the date of the issuance of the Commission’s order setting rates will affect not only the ability of the utility’s customers to pay rates, but also the ability of the utility to earn the authorized rate of return during the period the new rates will be in effect. However, in setting the rate of return, just as the Commission is constrained to address the impact of difficult economic times on customers’ ability to pay for service by establishing a lower rate of return on common equity in isolation from the many subjective determinations that must be made in a general rate case, it likewise is constrained to address the effect of regulatory lag<sup>24</sup> on the Company by establishing a higher rate of return on common equity in isolation. Instead, the Commission sets the rate of return considering both of these negative impacts taken together in its ultimate decision fixing a utility’s rates.

---

<sup>24</sup> Regulatory lag exists where a utility’s realized, earned return is less than its authorized return negatively affecting the shareholder’s return on investment as other expenses and debts owed are paid ahead of investor return.

Thus, in summary and in accordance with the applicable law, the Commission's duty under N.C.G.S. § 62-133 is to set rates as low as reasonably possible to the benefit of the customers without impairing the Company's ability to attract the capital needed to provide reliable electric service and recover its cost of providing service. The Commission is guided by this premise when it makes its determination of the appropriate rate of return on common equity.

It is against this backdrop of overarching principles that the Commission analyzes the evidence presented in this case.

### **Discussion and Application of Law to the Facts in this Case Regarding the Issue of Rate of Return on Common Equity**

The Commission has carefully evaluated the testimony of CWSNC witness D'Ascendis and Public Staff witness Hinton. The results of each of the models or methods used by these two witnesses to derive the rate of return on common equity that each witness recommends is shown below:

#### Summary of D'Ascendis' and Hinton's Common Equity Cost Rate Analyses

	D'Ascendis Direct	D'Ascendis Rebuttal	Hinton Direct
Discounted Cash Flow Model	8.81%	9.07%	8.60%
Risk Premium Model	10.21%	10.56%	9.40%
Capital Asset Pricing Model	9.35%	10.67%	n/a
Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Proxy Group	11.29%	11.28%	n/a
Indicated Common Equity Cost Rate Before Adjustments	9.80%	10.75%	9.00%
Size Adjustment	0.20%	0.20%	n/a
Flotation Cost Adjustment	0.07%	0.05%	n/a
Consumption Adjustment Mech.	n/a	n/a	(0.10%)
Round Up	0.03%	n/a	n/a
Indicated Common Equity Cost Rate after Adjustments	10.07%	11.00%	8.90%
Recommended Common Equity Cost Rate after Adjustments	10.10%	11.00%	8.90%

The range of these results is 8.90% to 11.00%. Further, underlying the low result of 8.90% is a range of 8.10% to 9.10%, according to witness Hinton's testimony concerning his application of the DCF. Similarly, underlying the high result of 11.00% is a range of 8.60% (DCF) to 11.29% (Cost of Equity models applied to witness D'Ascendis' non-price regulated proxy group). Such a wide range of estimates by expert witnesses is

not atypical in proceedings before the Commission with respect to the rate of return on common equity issue. Neither is the seemingly endless debate and habitual differences in judgment among expert witnesses on the virtues of one model or method versus another and how to best determine and measure the required inputs of each model in representing the interest of their intervening party. Nonetheless, the Commission is uniquely situated, qualified and required to use its impartial judgment to determine the rate of return on common equity based on the testimony and evidence in this proceeding in accordance with the legal guidelines discussed above.

In so doing, the Commission finds and concludes that the direct testimony results of Company witness D'Ascendis (without adjustment) of 9.80% and the DCF and risk premium analysis testimony of Public Staff witness Hinton (without adjustment) of 9.00% are credible, probative, and are entitled to substantial weight. Coincidentally, the stipulated, Commission-approved rate of return on common equity of 9.40%, which is the average of the unadjusted direct analyses of Company witness D'Ascendis and Public Staff witness Hinton, represents a balance of company and customer interests.<sup>25</sup>

Having determined that the appropriate rate of return on common equity based upon the evidence in this proceeding is the stipulated return of 9.40%, the Commission notes that there was considerable discussion during the hearing concerning the authorized returns on equity for water utilities in other jurisdictions. While the Commission has relied upon the record in this proceeding and is certainly aware that returns in other jurisdictions can be influenced by many factors, such as different capital market conditions during different periods of time, settlements versus full litigation, the Commission concludes that the rate of return on common equity trends and decisions by other regulatory authorities deserve some weight as (1) they provide a check or additional perspective on the case-specific circumstances, and (2) the Company must compete with other regulated utilities in the capital markets, meaning that a rate of return significantly lower than that approved for other utilities of comparable risk would undermine the Company's ability to raise necessary capital, while a rate of return significantly higher than other utilities of comparable risk would result in customers paying more than necessary. Hinton Exhibit 5, which shows RRA Water Advisory data showing approved rate of return on common equity decisions for water utilities across the country since 2006 is helpful. According to this exhibit, the average rate of return on common equity for water utilities was 9.59% in 2014, 9.76% in 2015, 9.71% in 2016, 9.56% in 2017, 9.41% in 2018, 9.37% in 2019, and in the cases reported in 2020 the average is 9.27%. Thus, the stipulated, Commission-approved rate of return on common equity of 9.40% is also consistent with recent authorized returns for water utilities based upon the evidence in this proceeding.

---

<sup>25</sup> The Commission notes that the Stipulation does not provide any indication as to how Aqua NC and the Public Staff actually derived their agreed-to 9.40% rate of return on common equity. Thus, the Commission, by noting the referenced "coincidence," does not infer that the Stipulating Parties' based their settlement on an average and asserts no such opinion in this case. The Commission's observation merely supports its independent determination that the stipulated 9.40% rate of return on common equity is reasonable and appropriate for adoption in this case.

These factors lead the commission to conclude that a 9.40% rate of return on common equity is supported by the substantial weight of the evidence in this proceeding. However, to meet its obligation in accord with the holding in *Cooper I*, the Commission will next address the impact of changing economic conditions on customers.

In this case, all parties had the opportunity to present the Commission with evidence concerning changing economic conditions as they affect customers, including in light of the significant human and economic impact posed by the COVID-19 pandemic. The testimony of witnesses D'Ascendis and Hinton, which the Commission finds entitled substantial weight, addresses changing economic conditions.

As to the impact of changing economic conditions on Aqua NC's customers, Public Staff witness Hinton testified he reviewed information on the economic conditions in the areas served by Aqua NC, specifically, the 2014, 2015, 2016, 2017, and 2018 data on total personal income from the Bureau of Economic Analysis (BEA) and the Development Tier Designations published by the North Carolina Department of Commerce for the counties in which Aqua NC's systems are located. The BEA data indicates that from 2017 to 2018, total personal income weighted by the number of water customers by county grew at a compound annual growth rate (CAGR) of 5.00%, which is slightly lower than the rate of 5.50% for the whole State, and that from 2014 to 2018, total personal income by county grew by 18.00%, which is slightly lower than the rate of 20.30% for the whole State.

Witness Hinton testified the North Carolina Department of Commerce annually ranks the State's 100 counties based on economic well-being and assigns each a Tier designation. The most distressed counties are rated a "1" and the most prosperous counties are rated a "3". The rankings examine several economic measures such as, household income, poverty rates, unemployment rates, population growth, and per capita property tax base. The average Tier ranking that has been weighted by the number of water customers by county is 1.80. For the years 2016 through 2020, the average Tier ranking was 2.10 for the counties in the areas served by Aqua NC and, in each year, the average was higher than the state average. Witness Hinton testified that these economic measures indicate that Aqua NC's service areas has experienced stable economic conditions until the recent COVID pandemic.

Witness Hinton testified that, while it is too early to tell its full impacts, the COVID-19 pandemic has led to an increase in unemployment throughout the State. The North Carolina Department of Commerce issued a press release on April 29, 2020, which stated that the unemployment rate increased in 97 of the state's 100 counties during March 2020. Witness Hinton testified that while the March 2020 unemployment rate for the counties in Aqua NC's service territory was slightly higher than the state's unemployment rate, that the unemployment data for April 2020 was expected to worsen with rates of 10.00% or more, though he expected that unemployment rates would abate and the economy would improve as the State enters phases two and three of the Governor's plans.

Aqua NC witness D'Ascendis also testified on economic conditions in North Carolina. He testified he reviewed: unemployment rates from the United States, North Carolina, and the counties comprising Aqua NC's service territory; the growth in Gross National Product (GDP) in both the United States and North Carolina; median household income in the United States and in North Carolina; and national income and consumption trends.

In his direct testimony on December 31, 2019, filed before the COVID-19 pandemic spread throughout North Carolina and the United States, witness D'Ascendis testified as to the falling rate of unemployment, real Gross Domestic Product growth, and median household income growth, and the strong correlation of these measures between North Carolina and the United States. Witness D'Ascendis also testified that in the Commission's Order on Remand in Docket No. E-22, Sub 479, the Commission observed that economic conditions in North Carolina were highly correlated with national conditions, such that they were reflected in the analyses used to determine the cost of common equity. He testified that those relationships still hold.

In his rebuttal testimony filed June 2, 2020, witness D'Ascendis generally agrees with witness Hinton's conclusions that the full effect of the Coronavirus on Aqua NC's customers is yet to be determined, and that once the crisis passes, whenever that may be, the economic slowdown will diminish.

The economic impact testimony of witnesses Hinton and D'Ascendis is credible, probative, and is entitled to substantial weight.

The Commission's review also includes consideration of the evidence presented during the public hearing by public witnesses, all of whom presently are customers of Aqua NC. The hearing yielded 24 witnesses who chose to be heard regarding their respective positions on Aqua NC's Application to increase rates. The testimony presented at the hearing by Aqua NC customers illustrates the difficult economic conditions facing a number of North Carolina citizens during the COVID-19 pandemic. The Commission accepts as credible, probative, and entitled to substantial weight, the testimony of the public witnesses.

Based upon the general state of the economy and the continuing affordability of water and wastewater utility service, and after weighing and balancing factors affected by the changing economic conditions in making the subjective decisions required, the Commission concludes that an allowed rate of return on common equity of 9.40% will not cause undue hardship to customers even though some will struggle to pay the increased rates resulting from this decision. When the Commission's decisions are viewed as a whole, including the decision to establish the rate of return on common equity at 9.40%,

the Commission's overall decision fixing rates in this general rate case results in lower rates to consumers in the existing economic environment.<sup>26</sup>

All of the scores of adjustments the Commission approves reduce the revenues to be recovered from ratepayers and the return to be paid to equity investors. Some adjustments reduce the authorized rate of return on investment financed by equity investors. The adjustments are made solely to reduce rates and provide rate stability to consumers (and return to equity investors) to recognize the difficulty for consumers to pay in the current economic environment. While the equity investor's cost was calculated by resort to a rate of return on common equity of 9.40% instead of 10.10%, this is only one approved adjustment that reduced ratepayer responsibility and equity investor reward. Many other adjustments reduced the dollars the investors actually have the opportunity to receive. Therefore, nearly all of these other adjustments reduce ratepayer responsibility and equity investor returns in compliance with the Commission's responsibility to establish rates as low as reasonably permissible without transgressing constitutional constraints, and thus, accrue to the benefit of consumers' ability to pay their bills in this economic environment.

Based on the changing economic conditions and their effects on Aqua NC's customers, the Commission recognizes the financial difficulty that the increase in the Company's rates will create for some of Aqua NC's customers, especially low-income customers. As shown by the evidence, relatively small changes in the rate of return on common equity have a substantial impact on a utility's base rates. Therefore, the Commission has carefully considered the changing economic conditions and their effects on Aqua NC's customers in reaching its decision regarding the Company's approved rate of return on common equity.

The Commission also recognizes that the Company is investing significant sums in system improvements to serve its customers, thus requiring the Company to maintain its creditworthiness in order to compete for large sums of capital on reasonable terms. The Commission must weigh the impact of changing economic conditions on Aqua NC's customers against the benefits that those customers derive from the Company's ability to provide safe, adequate, and reliable water and wastewater service. Safe, adequate, and reliable water and wastewater service is essential to the well-being of Aqua NC's customers.

The Commission finds and concludes that these investments by the Company provide significant benefits to Aqua NC's customers. The Commission concludes that the rate of return on common equity---stipulated by the Public Staff and Aqua NC and approved by the Commission in this proceeding---appropriately balances the benefits

---

<sup>26</sup> The Commission notes consumers pay rates, a charge in dollars per 1,000 gallons for the water they consume and a monthly flat rate for residential wastewater customers. They do not pay a "rate of return on equity," though it is a component of the Company's cost of providing service which is built into the billed rates. Investors are compensated by earning a return on the capital they invest in the business. Per the Commission determination of the rate of return on common equity in this matter, investors will have the opportunity to be paid in dollars for the dollars they invested at the rate of 9.40%.

received by Aqua NC's customers from the Company's provision of safe, adequate, and reliable water and wastewater service with the difficulties that some of Aqua NC's customers will experience in paying increased rates.

The Commission notes further that its approval of a rate of return on common equity at the stipulated level of 9.40% or for that matter at any level, is not a guarantee to the Company that it will earn a rate of return on common equity at that level. Rather, as North Carolina law requires, setting the rate of return on common equity at this level merely affords Aqua NC the opportunity to achieve such a return. The Commission finds and concludes, based upon all the evidence presented, that the stipulated rate of return on common equity provided for herein will indeed afford the Company the opportunity to earn a reasonable and sufficient return for its shareholders while at the same time producing rates that are just and reasonable to its customers.

### **Capital Structure**

Aqua NC witness D'Ascendis recommended the use of a ratemaking capital structure consisting of 50.00% long-term debt and 50.00% common equity. He testified this capital structure is based on a test year capital structure for Aqua NC, ending September 30, 2019.

Public Staff witness Hinton also testified recommending a 50.00% long-term debt and 50.00% common equity capital structure. The Stipulation also supports a 50.00% long-term debt, 50.00% common equity capital structure. No other party presented evidence as to a different capital structure.

Accordingly, the Commission finds and concludes that the stipulated capital structure of 50.00% common equity and 50.00% long-term debt is just and reasonable to all parties in light of all the evidence presented.

### **Cost of Debt**

In its Application, the Company proposed a long-term debt cost of 4.25%. Public Staff witness Hinton testified that the appropriate embedded cost of Aqua NC's long-term debt is 4.21%. The Stipulation provides for a 4.21% cost of debt. The Commission finds for the reasons set forth herein that the stipulated 4.21% cost of debt is just and reasonable. The 4.21% debt cost of the Stipulation gives customers the benefit of reductions in Aqua NC's lower cost of debt after the end of the test year.

No intervenor offered any evidence supporting a debt cost below 4.21%. The Commission, therefore, finds and concludes that the use of the stipulated debt cost of 4.21% is just and reasonable to all parties based upon all the evidence presented.

## EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 22

### Acceptance of Stipulation

No party filed a formal statement or testimony indicating opposition to the Stipulation; however, the AGO did pursue cross-examination of Aqua NC (by way of introduction of cross-examination exhibits) concerning certain communications from the DEQ. The Stipulation is binding as between Aqua NC and the Public Staff, and conditionally resolved certain specific matters in this case as between those two parties. Through the end of the evidentiary process, the AGO neither approved nor expressly disapproved of the partial settlement regarding the specific settled issues reflected in the terms of the Stipulation. There are no other parties to this proceeding.

As the Stipulation has not been adopted by all of the parties to this docket, its acceptance by the Commission is governed by the standards set out by North Carolina law. A stipulation entered into by less than all parties in a contested case proceeding under Chapter 62 “should be accorded full consideration and weighted by the Commission with all other evidence presented by any of the parties in the proceeding.” *State ex rel. Utilities Commission v. Carolina Utility Customers Association, Inc.*, 348 N.C. 452, 466, 500 S.E. 2d 690, 700 (1998). Further, “[t]he Commission may even adopt the recommendations or provisions of the nonunanimous stipulation as long as the Commission sets forth its reasoning and makes ‘its own independent conclusion’ supported by substantial evidence on the record that the proposal is just and reasonable to all parties in light of all the evidence presented.” *Id.*

The Commission concludes, based upon all the evidence presented, that the Stipulation was entered into by the Stipulating Parties after full discovery and extensive negotiations and represents a reasonable and appropriate proposed negotiated resolution of certain specific matters in dispute in this proceeding and that the AGO did not expressly object to the settlement. Based upon all of the evidence in the record, the Stipulation will provide Aqua NC and its ratepayers just and reasonable rates when combined with the rate effects of the Commission’s decisions regarding the Unresolved Issues in this proceeding.

The Commission gives substantial weight to the testimony of Aqua NC witness Becker regarding the Stipulating Parties’ protracted efforts in negotiating the Stipulation, and regarding the benefits of it. Further, the Commission gives significant weight to the settlement testimony of Public Staff witnesses Henry, which in his discussion of the benefits that the Stipulation will provide to customers and his testimony describing the compromise reflected in the Stipulation’s terms, indicates the Public Staff’s commitment to fully represent the using and consuming public.

As a result, the Commission finds and concludes that the Stipulation is the product of the give-and-take between the Stipulating Parties during their settlement negotiations in an effort to appropriately balance Aqua NC’s need for increased revenues and its customers’ needs to receive safe, adequate, and reliable water and wastewater service

at the lowest possible rates. In addition, the Commission finds and concludes that the Stipulation was entered into by the Stipulating Parties after substantial discovery and negotiations, and, with the exception of the Unresolved Issues, that it represents a proposed negotiated resolution of the matters in dispute in this docket.

The provisions of the Stipulation are entitled to substantial weight and consideration in the Commission's decision because they are based on evidence presented in the case, they are just and reasonable to all parties to this proceeding, and they serve the public interest. Therefore, the Stipulation should be approved in its entirety.

## **EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 23**

### **Conservation Normalization Factor and Consumption Adjustment Mechanism**

The evidence for these findings of fact is contained in the verified Application, the testimony of Aqua NC witnesses Becker and Thill, and the testimony of Public Staff witness Junis and the Stipulation.

In its Rate Case Application, Aqua NC proposed use of an adjustment for its historical consumption in development of the Company's pro forma usage billing determinants. More specifically, Aqua NC applied a conservation normalization factor to the three-year average historical consumption figures for each of the Company's three water rate divisions. Aqua NC asserts that a simple three-year historical average ignores the impact of continued declining consumption being experienced across the state and across the country, driven by consumer conservation.

Also in its Rate Case Application, Aqua NC proposed implementation of a CAM for approval by the Commission pursuant to N.C.G.S. § 62-133.12A.

#### ***Aqua NC Witness Becker***

Aqua NC President Shannon Becker's direct testimony addresses the impact that the determination of consumption has on the Company's ability to meet its authorized rate of return on common equity. Witness Becker testifies that, as described in witness Thill's testimony, a portion of the requested revenue increase in this case is a result of reduced consumption per customer. He states that, although the trend is clearly one of declining consumption, consumption can also increase significantly during extended periods of warm weather. Therefore, witness Becker asserts that fluctuation in consumption is a factor that must be addressed in order for Aqua NC to meet the approved revenue requirement necessary to attain its authorized rate of return on common equity. He maintains that Aqua NC depends on the integrity and accuracy of a rate design in order to have an opportunity to achieve its authorized return. He further maintains that key to this opportunity is reasonable accuracy in the derivation of consumption figures. Witness Becker contends that consumer consumption levels that are above rate case projections could provide excess revenues, while consumption levels that are below rate case projections could result in a deficit. Witness Becker asserts that the persistent decline in

consumption has regularly eroded the Company's opportunity to earn its authorized rate of return. He states that the utilization of a historic three-year consumption average to determine rates has proven to be insufficient to support the revenue requirement necessary for Aqua NC to have a reasonable opportunity to attain the Company's authorized rate of return on common equity.

Witness Becker maintains that recognition of a historical conservation experience and its application in the Company's rate design will better align the ratemaking consumption data with actual current customer usage and, thus, will more fairly support the Company's ability to realize its authorized rate of return on common equity. Witness Becker notes that Aqua NC witness Thill describes the Company's proposal to apply a conservation normalization factor to accomplish this objective in his direct testimony.

Witness Becker testifies that Aqua NC was also proposing a CAM in this general rate case proceeding for approval by the Commission. In an attempt to address the challenges of utilizing a persistently declining historic consumption pattern and address potential swings in average customer consumption, witness Becker testifies that Aqua NC supported legislation that authorized the Commission to "adopt, implement, modify, or eliminate a rate adjustment mechanism for one or more of the Company's rate schedules to track and true-up variations in average per customer usage from levels approved in the general rate case proceeding" under House Bill 529 (Session Law 2019-88) which was signed into law on July 8, 2019, adding N.C.G.S. § 62-133.12A to 19 Article 7 of Chapter 62 of the General Statutes. Witness Becker states that this mechanism, if approved for use, is intended to provide a true-up of the average per customer consumption levels used to calculate rates necessary to achieve an approved revenue requirement. He asserts that it provides the Company and its customers rate protections during periods of fluctuating consumption, high or low, that could otherwise result in over or under collections of approved revenue levels. Since the Commission's CAM rulemaking in Docket No. W-100, Sub 61, has just gotten underway, witness Becker states that Aqua NC reserves the right to withdraw the Company's request to implement a CAM in this rate case docket, subject to the final terms and conditions that may be ordered.

### ***Aqua NC Witness Thill***

In his direct testimony Aqua NC witness Thill describes and discusses the supporting rate design exhibits prepared and submitted as part of the Company's Rate Case Application pertaining to billing determinants, revenues, and proposed rates. He also discusses, in detail, the Company's contention that over the last several years, the average consumption per customer has varied widely due to environmental factors, conservation, and pricing. Witness Thill testifies that the fact is that Aqua NC's customer habits are changing and, overall, consumption is declining due to a number of persistent factors, including more efficient plumbing fixtures and household appliances, governmental programs encouraging greater efficiency in water use, changes in landscaping patterns, and consumer response to conservation price signals.

Witness Thill testifies that Aqua NC included an adjustment for consumption in development of the Company's pro forma usage billing determinants. More specifically, witness Thill states that a conservation normalization factor had been applied to the three-year average consumption figures for each of the Company's three water rate divisions. According to witness Thill, the Company's proposed conservation normalization factor attempts to correct the three-year consumption average by rolling the experience to levels better reflecting those at the end of the test year. He agrees that the three-year average advocated by the Public Staff in Aqua NC's water and wastewater ratemaking adjustments accomplishes a smoothing of historic year-to-year consumption patterns impacted by weather. Witness Thill asserts that this policy seeks to protect both the customer and the utility from rates that might be skewed by use of consumption levels driven by short-term weather events (droughts, floods, etc.). However, witness Thill testifies that a simple three-year historical average ignores the impact of continued declining consumption experiences across the state and across the country, driven by consumer conservation. Witness Thill provides an example in his testimony to illustrate his point.

In describing how the lack of a conservation normalization factor affects Company revenue, witness Thill testifies that the current approach overstates consumption (by understating the reality of the declining trend in consumption), thereby undermining the integrity of the ratemaking formula. He states that the formula operates by application of a certain price to the expected gallons to be sold by the utility; however, if the gallons actually sold are consistently fewer than the gallons utilized to set rates, the Company is hobbled in its efforts to recover its revenue requirement, and thus to earn its authorized rate of return. Witness Thill then provides an illustration to demonstrate his point; but also states that the Company recognizes that there are a number of assumptions used in this illustration and does not propose that the number is a specific measure of actual lost revenue. He explains that the Company has, instead, presented this calculation to show the design deficiency inherent in the traditional calculation and a general indication of the magnitude of the impact on utilities when using steadily declining historic averages to calculate consumption necessary to recover an established revenue requirement in a rate case. Witness Thill states that his illustration supports the Company's contention that the three-year average should be paired with a conservation normalization factor to better represent real consumption levels as of the end of the test year – not one that effectively utilizes an average consumption level that existed eighteen months ago (i.e., the mid-point of the three-year average). He contends that this updated concept is consistent with similar traditional efforts to utilize the full customer population at that same date.

Witness Thill then describes how the Company's proposed conservation normalization factor was computed and applied. Witness Thill further testifies that the Company's proposed conservation normalization factor is not projective in nature; that the factor uses only known and measurable historical data as of the end of the test year (to be updated at the end of the post-test year period); and that the factor does not project a furtherance of any consumption trend.

Witness Thill also testifies that implementation of a consumption adjustment mechanism or CAM would not accomplish the same purpose as a conservation normalization factor. Witness Thill states that, while both measures seek to address a deficiency in the revenue sufficiency produced by the historical calculation, the CAM does not address revenue stability. He maintains that the conservation normalization factor intends to more fully collect the revenue authorization in the period of consumption, which helps best match the revenues with associated expenses. He contends that the CAM provides a mechanism to correct any realized deficiency or surplus in the following year. Witness Thill further contends that in collecting a more appropriate level of revenues in the year of consumption, there is greater stability in customer bills due to the absence of prior year adjustments.

### ***Public Staff Witness Junis***

Regarding average consumption per customer, Public Staff witness Junis testifies that he adjusted the consumption for the updated data using a three-year average (April 2017 through March 2020) compared to the Company's application of its conservation normalization factor to the three-year average (October 2016 through September 2019). The consumption adjustment resulted in a 0.65% increase for Aqua NC Water, 5.22% decrease for Aqua NC Sewer, 0.66% increase for Brookwood Water, 8.13% decrease for Fairways Water, and 11.52% decrease for Fairways Sewer to reflect the difference between the test year ending September 30, 2019, per customer usage and the three-year average for the period ending March 31, 2020. Witness Junis states that Aqua NC's testimony is largely duplicative of its contentions expressed in the last rate case regarding a downward trend in consumption that prevents the Company from earning its authorized rate of return. Witness Junis testifies that, as noted in the Environmental Finance Center (EFC) Study, Aqua NC water customers' consumption has stabilized close to an average of 5,000 gallons per month. From Thill Direct Exhibit 1, witness Junis states that he had converted the measurement units and graphically illustrated the active customer bills, billed consumption, average monthly consumption per bill, and the three-year average monthly consumption per bill for the 12-month period ending September 30, 2019 as shown in Junis Exhibit 1.

Witness Junis testifies that, on a consolidated basis, there has been a clear leveling out or stabilization of average monthly consumption since the dip in 2013. He maintains that the average monthly consumption each year may fluctuate above or below the three-year average, however, the band of variation has narrowed significantly in recent years. He notes that on page two of Junis Exhibit 1, the graphs moving down the page illustrate this trend as the time period is limited to progressively recent data. He asserts that the three-year average is a relatively accurate representation of expected consumption in the short-term. He notes that this is especially true in light of Aqua NC's plans to file rate cases every 15 months. In addition, witness Junis states that as shown in Junis Figure 1, there has been a consistent, gradual growth in customers and total consumption since 2013. He maintains that as a result of this growth, both revenues from base facilities charges and volumetric charges have increased from year to year. Therefore, he asserts that Aqua NC's actual total revenues have increased from year to

year and would exceed the revenue requirement approved by the Commission in the prior two rate cases.

Witness Junis testifies that, using the trend summary workpapers of Company witness Thill that are part of his billing analysis and rate design, he has graphically illustrated the average monthly consumption per bill for the updated test year ending March 31, 2020, and the three-year average monthly consumption per bill for the 12-month periods ending March 31 as shown in Junis Exhibit 2.

Witness Junis states that the observations are similar to those previously noted with the exceptions that Brookwood Water has a consistent downward trend in average monthly consumption and Fairways Water average consumption spiked in the most recent 12-month period ending March 31, 2020. According to witness Junis, it would be reasonable to expect the Brookwood Water average monthly consumption to eventually flatten and stabilize and for the Fairways Water to return to equilibrium. He notes that from reviewing the updated data on a consolidated basis, there has been a clear leveling or stabilizing of average monthly consumption. He states that on page five of Junis Exhibit 2, the third graph at the bottom of the page shows the most recent five years of average monthly consumption per bill and the three-year average consumption. The three-year average of 5,087 gallons per monthly bill would have been within +/-4% of the subsequent years (or TY Avg in the graph), including higher in two years and lower in two years.

Witness Junis testifies that the explanation for the unusually low consumption in the 12-month period ending March 31, 2019, was weather. More specifically, he notes that based on a review of climate data from the National Oceanic & Atmospheric Administration's station at the Raleigh-Durham International Airport, the representative area experienced above-average precipitation, both in quantity and frequency, in 2018 and early 2019. Witness Junis further states that this conclusion is further supported by data from the United States Drought Monitor (USDM). He states that North Carolina experienced a historic drought beginning in 2007. Areas of the State were designated as being under severe drought (D2) starting in April 2007 and did not completely return to below severe drought levels until April 2009. He notes that at the time, 71 counties in North Carolina were classified as experiencing exceptional drought conditions. He maintains that this is in stark contrast to more recent years. He notes that the graphs in Junis Exhibits 3 and 4 progressively narrow the focus on the updated three-year average consumption data period ending March 31, 2020. He states that the updated test year and the prior two years (i.e., TY, TY-1, and TY-2) experienced minimal moderate drought conditions, undesignated to minimal abnormally dry conditions, and moderate drought conditions, respectively. He further states that with the exception of the first two months, TY-1 or the 12-month period ending March 31, 2019, experienced minimal dry conditions. Therefore, he concludes that consumption was unusually low.

Witness Junis states that the Public Staff recommends that the Commission deny the utilization of the conservation normalization factor. He maintains that the average monthly consumption per bill has stabilized in the last five years, and it would be

unreasonable to further reduce average consumption based on historical data that is not representative of current customer usage habits and conditions. He states that the conservation normalization factor in the Company's Application includes data from as far back as October 2008 and, even if updated, from April 2009. He observes that the average consumption during the years 2008 through 2012 was higher and trended downward. However, he notes that trend is no longer occurring and, therefore, using it to calculate the conservation normalization factor would underestimate average monthly consumption per customer. Witness Junis testifies that this is especially important when the number of customers and the total consumption continues to increase and as concluded by the EFC, that growth in revenues outpaces the associated variable expenses.

As part of the Stipulation, Aqua NC accepted the Public Staff's proposed adjustment to service revenues and the Company withdrew its application for the application of a conservation normalization factor in this proceeding.

In regard to the Company's proposal in its Application to implement a CAM, witness Junis testifies that Aqua NC has requested authority to implement a CAM within each of the Company's five Rate Divisions, pursuant to N.C.G.S. § 62-133.12A and subject to the final rules to be defined by the Commission under Docket No. W-100, Sub 61. Witness Junis observes that on page 18 of its Application, Aqua NC asserts that the mechanism, if approved for use, is intended to provide a true-up of the average per-customer consumption levels used to calculate rates necessary to achieve an approved revenue requirement. He testifies that Aqua NC further asserts that the mechanism provides the Company and its customers rate protections during periods of fluctuating consumption, high or low, that could otherwise result in over- or under-collection of approved revenue levels. He states that Aqua NC also reserves the right to withdraw the CAM if the rules to be adopted in Docket No. W-100, Sub 61, render the use of a CAM infeasible for the Company.

Witness Junis testifies that the direct testimony of Company witness Becker regarding the proposed CAM generally mirrors the application language above, with the exception that Aqua NC supported the legislation under House Bill 529, and he makes no mention of infeasibility but rather states, "Aqua reserves the right to withdraw the Company's request to implement a CAM in this rate case docket, subject to the final terms and conditions that may be ordered."<sup>27</sup> Witness Junis notes that this is essentially the totality of the Company's testimony and evidence in support of its CAM request in the rate case.

---

<sup>27</sup> Page 33, line 7, through page 34, line 6, Direct Testimony of Company witness Shannon Becker filed in Docket No. W-218, Sub 526, on December 31, 2019.

Witness Junis testifies that the Public Staff does not believe the CAM,<sup>28</sup> as proposed by Aqua NC jointly with CWSNC, is in the public interest and recommends that the Commission deny the request to implement the mechanism. Witness Junis further testifies that the Commission's Order in the rulemaking proceeding states, "the Commission is not persuaded that the Companies' proposal is a reasonable or appropriate means of implementing the CAM Statute." Witness Junis maintains that until the Company either withdraws or amends its request, it would be premature for the Public Staff to evaluate the request or proffer any recommendation. Witness Junis notes that the Commission, in recognition of Aqua NC's pending rate case and the Company's expressly reserved right to withdraw or modify the requested CAM, allowed Aqua NC 30 days (to June 11, 2020) from its Order dated May 12, 2020, to amend its application with respect to the CAM.

### ***Aqua NC Witness Thill Rebuttal***

In his rebuttal testimony, witness Thill withdrew the Company's request for implementation of a CAM in this proceeding, electing, instead, to pursue implementation of a CAM in its next general rate case, developed in light of the Commission's rules issued on May 12, 2020, in Docket No. W-100, Sub 61.

With respect to Aqua NC's requests for a conservation normalization factor and a consumption adjustment mechanism, since these matters have been withdrawn by the Company and are no longer an issue in this proceeding, the Commission does not make any findings or conclusions with respect to these matters in this proceeding.

## **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 24-29**

### **Rate Design – Water and Wastewater, Excluding Conservation Pilot Program**

The evidence for these findings of fact is contained in the verified Application, the testimony of Aqua NC witness Thill, the testimony of Public Staff witness Junis, and the AGO's brief.

### ***Aqua NC Witness Edward Thill Direct Testimony***

Aqua NC witness Edward Thill testifies on direct that the Company proposes to utilize the same rate design fixed/variable ratios that were proposed by the Public Staff and approved by the Commission in the Company's most recent prior rate case (Docket No. W-218, Sub 497). He states that that rate design structure included allocations of base facility charges (BFCs) and volumetric charges for the average water customers as

---

<sup>28</sup> Initial Comments Regarding Rulemaking Proceeding filed on January 31, 2020, jointly by Aqua NC and CWSNC in response to the Commission's Order Establishing Rulemaking Proceeding and Granting Petitions to Intervene in Docket No. W-100, Sub 61.

follows: 40%/60% for the Aqua NC Water Rate Division; 41%/59% for the Brookwood Water Rate Division; and 44%/56% for the Fairways Water Rate Division.

Witness Thill testifies that the Company proposes the continuation of the flat rate wastewater rates for residential customers. Aqua NC bills commercial wastewater customers a volumetric rate. Aqua NC also bills residential wastewater customers a volumetric rate on systems for which the Company purchases bulk wastewater treatment from Charlotte Water. In its Application, the Company proposed to increase the monthly residential wastewater flat rate from \$72.04 to \$80.18.

In support of his recommendations regarding the Company's proposed water and wastewater rate design proposals, witness Thill references a March 31, 2016 report produced by the EFC at the UNC School of Government titled "Studies of Volumetric Wastewater Rate Structures and a Consumption Adjustment Mechanism for Water Rates of Aqua North Carolina, Inc." (EFC Report). Tr. vol. 4, 15-16. Aqua NC witness Thill states that the EFC Report notes that short-term fixed expenses accounted for 83% (or higher) of Aqua NC's expenses for wastewater and 89% (or higher) for water services. Witness Thill testifies that although high fixed expenses are best matched by high allocations of fixed revenues, the Company recognizes that there are critical considerations in ratemaking beyond the contemporaneous matching of the Company's revenue and expenses. *Id.* at 16. He testifies that these considerations include customer affordability and conservation. *Id.* He further testifies that these specific public policy goals in particular are better supported by ratemaking structures that recover a greater portion of costs from volumetric rates. *Id.*

Witness Thill testifies that, in determining appropriate rate designs for water and wastewater service, a balance must be struck that promotes consumption conservation while also providing the Company with a reasonable opportunity to earn its authorized rate of return on common equity. *Id.* For this reason, witness Thill states that the Company's rate proposal in this case seeks only to maintain the same ratios approved by the Commission in the recent Sub 497 rate case Order.

### ***Junis Direct Testimony***

Public Staff witness Junis testifies that the Public Staff thinks that the volumetric water rates for Aqua NC systems that are charged pass-through purchased water volumetric rates should closely match the volumetric expense incurred by the Company from the provider. Tr. vol. 5, 55. He testifies that the base facilities charges and a reasonable amount of water loss are typically included in the cost of service to determine the uniform base facilities charges. *Id.* He testifies that for purchased water providers with a uniform volumetric rate, the Public Staff recommends that Aqua NC's volumetric rate be equal to the provider's rate, plus the Commission's regulatory fee rate of 0.13%. *Id.* at 55-56.

Witness Junis testifies that the Public Staff agrees with the Commission's statements in the generic rate design proceeding, Docket No. W-100, Sub 59, that a

balance should be struck between achieving revenue sufficiency and stability to ensure quality, reliability, and long-term viability for properly operated and well-managed utilities on the one hand, and setting fair and reasonable rates that effectively promote efficiency and conservation on the other hand. *Id.* at 56-57. He testifies that the Public Staff recommends an average water bill service revenue ratio of 30:70 (base facilities charge: usage charge) for Aqua NC Water, Brookwood Water, and Fairways Water customers. *Id.* at 57. He testifies that the incremental shift to higher volumetric charges sends a price signal that properly promotes efficiency and conservation. *Id.* He further testifies that the Company's total service revenues continue to increase annually, and the customer growth revenues are expected to outpace the associated variable expenses. *Id.* In addition, he testifies that the average monthly consumption per customer has been shown to be stabilizing. *Id.* He maintains that this combination of growth and stabilizing consumption makes it unlikely that the revenue instability and insufficiency the Company warns against will come to pass. *Id.*

The direct testimony of witness Junis incorporated by reference the Comments of the Public Staff filed on May 22, 2019, and the Reply Comments of the Public Staff filed on June 19, 2019, in the generic rate design proceeding in Docket No. W-100, Sub 59. *Id.* at 58. The Public Staff's May 22, 2019 Comments state on pages 32 and 33:

By decreasing the base facility charge there is an incentive for residential customers to use water prudently and conserve.

. . . .

The primary beneficiaries of the lower base charges are retired persons on fixed incomes, other single and/or two person households, and customers with discretionary usage that can be reduced.

The Public Staff's June 19, 2019 Reply Comments state on pages 4 and 5, "To more effectively promote and support efficiency and conservation, the volumetric charge should be a greater proportion of the average bill. Otherwise, the cost signal is ineffective because customers have minimal incentive to reduce their water consumption."

The Public Staff's Reply Comments again quoted the 2018 Report that states, "[a]nother way to measure the strength of the conservation pricing signal of water rates is to determine how much of a financial reward (decrease in water bill) a customer will receive by lowering their water consumption from a high volume (10,000 gallons) to an average level (5,000 gallons)." (2018 Report p. 20) The EFC further states that some utilities reward customers substantially in terms of bill reduction percentage for cutting back (e.g., nearly halving the bill when customers halve their consumption) whereas other utilities provide relatively little incentive (e.g., only a 30% bill reduction). *Id.* at 58-59.

Witness Junis testifies that the present Aqua NC Water uniform water rate structure provides customers relatively little incentive to reduce their consumption because, if customers significantly reduce their usage by 50%, they experience a bill

reduction of only 37.6%. *Id.* at 59. He testifies that the middle 80% of EFC-surveyed North Carolina water utilities utilizing a uniform rate provide a bill reduction ranging between approximately 32% and 48%, and the median bill reduction is 40%. *Id.*

Witness Junis further testifies if Aqua NC Water uniform residential rates had been implemented at the 30:70 ratio in the Docket No. W-218, Sub 497, rate case, utilizing the billing data and average monthly usage per customer from that proceeding, the bill reduction percentage would have increased from 37.6% to 41.2%. *Id.* at 62

Witness Junis maintains that a lower base facilities charge reduces the cost burden on customers for access to utility service before they use any service. *Id.* at 60. He states that it allows customers to have greater control over their total bills by changing their usage through improved efficiency and conservation. *Id.* Witness Junis testifies that the base facilities charge is a frequently discussed and highly controversial issue in electric, natural gas, water, and wastewater rate cases. *Id.* at 61. He contends there are advantages and disadvantages to the different base to usage ratios for the utility, rate groups, and individual customers. *Id.* Witness Junis testifies that during his Public Staff career, electric and natural gas residential base facilities charges have remained in the \$10 to \$15 range, while water base facilities charges have continued to increase and wastewater rates have historically been a flat rate or a very high percentage of the average residential bill. *Id.*

Witness Junis testifies that in the 2020 North Carolina Water & Wastewater Rates Report, the EFC and NCLM conducted a survey with representation from 495 of 517 rate-charging water and wastewater utilities in North Carolina.<sup>29</sup> *Id.* at 61-62. The median monthly base charge amount was \$17 for water utilities and \$19 for wastewater utilities. *Id.* at 62.

Witness Junis further testifies that neither flat rates nor metered rates with moderate to high base facilities charges properly balance revenue sufficiency and stability with the promotion of efficiency and conservation. *Id.* at 63. He testifies that flat rates or low volumetric rates promote discretionary usage and wasteful practices. *Id.*

In commenting on Aqua NC's proposed wastewater rate design, Public Staff witness Junis states that the Company proposes to utilize the same ratio of base facilities charges to volumetric charges, a majority of which are monthly flat rate, as approved by the Commission in the last rate case. Witness Junis testifies that the Public Staff recommends the sewer charges to Aqua NC Sewer and Fairways Sewer customers who are also Aqua NC Water and Fairways Water customers be converted from a flat rate to a volumetric rate based on their metered water usage. Tr. vol. 5, 64. He notes that this has been considered in past Aqua NC rate cases dating back to the general rate case in Docket No. W-218, Sub 274. He states that during Aqua NC's general rate case filed on

---

<sup>29</sup> This report is just one resource in a series on North Carolina water and wastewater rates funded by the North Carolina Department of Environmental Quality's Division of Water Infrastructure (DWI) and compiled by the North Carolina League of Municipalities and the EFC at the School of Government at UNC-Chapel Hill.

August 2, 2013, in Docket No. W-218, Sub 363, the Public Staff and Aqua NC entered into a stipulation and settlement agreement wherein Aqua NC agreed to commission a study conducted by the EFC that included the possible implementation of volumetric residential wastewater rates. *Id.*

Witness Junis states that on March 31, 2016, the EFC Report was filed jointly by Aqua NC and the Public Staff in Docket No. W-218, Sub 363A. He explains that one of the main goals of the studies was to “assess the effect on customer bills and Aqua NC revenues by implementing a volumetric wastewater rate structure or implementing a consumption adjustment mechanism water rate structures relative to the status quo.” *Id. at 65-66.*

Witness Junis testifies the Public Staff would prefer to uniformly move the ratio of base facilities charge to volumetric charge toward 30:70. *Id. at 66.* However, he notes that the rate structure shift from flat to 30:70 would be expected to result in significant rate shock for some customers. He explains that while the average bill remains nearly the same, low users’ bills would decrease, and high users’ bills would increase. He testified as a means of mitigating rate shock while still progressing toward an effective price signal, the Public Staff recommends an incremental approach of a 60:40 ratio for Aqua NC Sewer and Fairways Sewer customers. *Id.*

### ***Junis Cross Examination and Commissioner Questions***

Witness Junis testifies on cross examination that approximately 1,000 Aqua NC Sewer residential customers already have volumetric wastewater rates as they receive bulk wastewater service from Charlotte Water. *Id. at 78.* He testifies the current rate design for those customers is 35% base facilities charge and 65% volumetric. *Id.* He further testifies the Public Staff recommends these customers have the same 60% base charge and 40% volumetric charge as the Public Staff recommends for all the Aqua NC Sewer customers that have Aqua NC Water metered service, excluding purchased water systems. *Id.*

In response to questions from Commissioner Hughes, witness Junis testifies that customers in previous Aqua NC rate cases have testified in support of volumetric wastewater billing in order to have more control over their bills. *Id. at 120.* He testifies that by switching to metered wastewater, customers that are both water and wastewater have a double incentive to control their consumption. *Id.* He further testifies based upon the NC League of Municipalities and EFC annual reports that there are not very many volumetric wastewater rates with consumption caps. *Id. at 121-22.*

Public Staff witness Junis further testifies in response to questions from Commissioner Hughes that the volumetric wastewater study in Docket No. W-218, Sub 363, justifies customers’ interest in volumetric wastewater. *Id. at 122-23.* He contends that data from that study is available but is not being utilized, and that the study demonstrates that customers wanted volumetric wastewater rates and therefore justifies the shift to volumetric wastewater rates. *Id.*

Witness Junis further testifies that as of March 31, 2020, there were approximately 9,000 residential customers that would be shifted from flat rate to metered wastewater rates, which is approximately 57% of the Aqua NC Sewer flat rate residential customers.<sup>30</sup> *Id.* at 124.

Witness Junis testifies in response to questions from Commissioner Gray that the Public Staff's volumetric residential wastewater rates recommendation was not discriminatory as the Public Staff was taking the entire group of the Aqua NC Sewer customers that had Aqua NC water meter readings available at no additional cost, and assigning those customers to volumetric wastewater. *Id.* at 131. He further testifies that low users would have lower bills with metered wastewater billing and high users would have higher bills. He testifies that the Public Staff recommends the incremental approach of a 60/40 rate design, which keeps the base facility charge on the higher end, in order to avoid too significant of an increase in high user bills. *Id.* at 132.

On redirect examination, witness Junis testifies that of the approximately 6,000 residential customers on the Bayleaf Master water system, there are less than 800 wastewater customers. *Id.* at 140. He also testifies it was possible an Aqua NC wastewater customer who did not have Aqua NC water utility service could provide the Company that customer's water meter readings so that the Company could bill the customer using a metered wastewater rate. *Id.* at 141.

### ***Thill Rebuttal Testimony***

Aqua NC witness Thill testifies on rebuttal that he disagrees with the Public Staff's position that the average water consumption levels by Aqua NC Water and Fairways Water customers have stabilized. Tr. vol. 6, 21-22. He asserts that the Company agrees that a narrowing of the band of variation has occurred, but true stabilization would imply essentially no volatility at all. *Id.* at 23.

Witness Thill testifies that the Company does not agree that a shift to greater volumetric water rates is appropriate. *Id.* at 33. The reasons given by witness Thill for this disagreement were that it is debatable whether consumption stabilization has actually occurred and that, with regard to customer and revenue growth, the Public Staff focused only on short-term variable expenses and ignored the comprehensive cost of providing service. *Id.* at 33-35. He testifies that the Public Staff's 30/70 recommendation provides

---

<sup>30</sup> The Public Staff filed Public Staff Late Filed Exhibit No. 2 on July 20, 2020, in the present docket. In response to Commissioner Hughes request to witness Junis, the Public Staff provided the following more detailed response:

As of March 31, 2020, there were 15,675 ANC Sewer residential flat rate customers. Aqua proposed that approximately 149 (~1%) of those customers who live in the Woodland Farms and Rocky Ridge subdivisions be converted from residential flat rate to Carolina Water metered rates. In addition, the Public Staff recommended that 8,853 ANC Water and Sewer customers (~56%) be converted from residential flat rate to ANC Sewer metered rates. Based on the combined recommendations of Aqua NC and the Public Staff, approximately 6,673 customers (~43%) would remain residential flat rate customers.

customers with an incentive for efficiency and conservation but increases the Company's concerns regarding revenue sufficiency and stability. *Id.* at 35.

In regard to wastewater rates, witness Thill testifies on rebuttal that Aqua NC does not agree with a shift to volumetric wastewater rates for many of the same reasons expressed earlier concerning the Public Staff's recommendation for a greater volumetric element for water revenues. Tr. vol. 6, 37. He testifies that volumetric wastewater rates create further instability and insufficiency in Aqua NC's revenue stream without safeguards for the Company or rate of return on common equity compensation for the added risk. *Id.* at 38. He further testifies the Public Staff's recommendation "makes no provision in the rate design for the price elasticity and creates further imbalance between the Aqua NC's highly fixed expense structure (83% short-term fixed expenses for wastewater entities as determined by the EFC Study<sup>31</sup>) and Aqua NC's current mixed revenue structure." *Id.*

### ***Cross Examination Thill***

On cross examination, witness Thill testifies that Public Staff Thill Rebuttal Cross Examination Exhibit 2, the 2018 North Carolina Water and Wastewater Rates Report by EFC, the NC League of Municipalities, and DEQ Division of Water Infrastructure (2018 Report), states on page 3 that of the 508 water utilities studied almost 25% of the monthly base charges for residential customers are between \$11 and \$15, and 25% are \$16 to \$20. Tr. vol. 7, 15-16. He testifies that the median monthly water base charge was \$16.13. *Id.* at 17. He further testifies that page 4 of the 2020 North Carolina Water and Wastewater Rates Report stated the median monthly water base charge was \$17.00. *Id.* at 19.

On redirect witness Thill testifies that the Public Staff's recommended 30/70 ratio would create additional risk that the Company will not achieve its authorized revenue requirement. *Id.* at 30.

In regard to wastewater rates, on cross examination, witness Thill observes that Public Staff Thill Cross Examination Exhibit 2 is the 2018 North Carolina Water and Wastewater Rates Report, and the three contributors are the EFC, the North Carolina League of Municipalities, and the DEQ Division of Water Infrastructure (2018 Report). Tr. vol. 7, 12. He testifies there were 396 utilities with wastewater service in this survey. *Id.* at 13. He testifies that this 2018 Report stated the median base charge for wastewater rate structures was \$18.00. *Id.* at 17.

Witness Thill further testifies that Public Staff Thill Cross Examination Exhibit 3 was the 2020 North Carolina Water and Wastewater Rates Report compiled by the same three contributors (2020 Report), and the median wastewater base charge was \$19.00. *Id.* at 19. Witness Thill acknowledges that the Public Staff comments filed in Docket No. W-100, Sub 59, the generic rate design proceeding, on May 22, 2019, included

---

<sup>31</sup> EFC Study at 6.

Exhibit 1 titled “Fiscal year 2018-2019 Wastewater Residential Flat Rate Structures” which was taken from the publication “Water and Wastewater Rates and Rate Structures” in North Carolina as of January 2019 by the EFC. *Id.* at 20. He notes that, of the 396 wastewater systems listed in Exhibit 1, there were only five flat rate wastewater government systems. *Id.* He states these five systems were Bald Head Island with a population served of 3,150, Cumberland County – Kelly Hills District with a population served of 920, Lake Lure with a population served of 940, Powellsville with a population served of 643, and Proctorville with a population served of 114. He testified Exhibit 1 states Powellsville bills flat rate water, Proctorville provides no water bills, and Cumberland County – Kelly Hills District does not provide water utility service. *Id.* at 21-23.

### ***Thill Redirect Examination***

On redirect examination, witness Thill testifies that Public Staff Thill Rebuttal Cross Examination Exhibit 2 lists two for-profit multi-system utilities which he thinks are Aqua NC and Carolina Water Service, Inc. of North Carolina. *Id.* at 26-27. He again maintains that any increase in the volumetric element puts the Company more at risk. *Id.* at 30. He contends that with or without the pilot program, no changes should be made to Aqua NC’s existing rate design. *Id.* at 31.

### ***The Attorney General***

In his brief, the AGO states that he supports the adoption of a rate design that reduces the monthly fixed charges and instead charges customers based on metered consumption of service, as proposed by the Public Staff. The AGO states that, to encourage conservation, the Public Staff’s proposed changes in Aqua NC’s rate design would reduce the base charge for water service so that costs are recovered 30% from the fixed charge and 70% in usage charges. Tr. vol. 5, 74. The AGO agrees with the Public Staff that a lower base monthly charge for water service would reduce the cost burden to access service and give customers greater control over their total bills. Tr. vol. 5, 60.

Further, the AGO states that the Public Staff proposes to change the rate design for wastewater customers who receive water and wastewater services from Aqua NC. The AGO notes that Aqua NC recovers the full wastewater bill from most customers in a fixed monthly rate. The AGO describes the Public Staff’s proposal to use a similar 30/70 rate design for fixed and usage charges to encourage conservation. The AGO further describes that the Public Staff proposes to mitigate the impact of the new rate design by recommending to initially recover 60% from the fixed charge and 40% in usage charges. Tr. vol. 5, 74-75.

The AGO contends that the Public Staff’s proposed rate design would have several benefits:

- It would be more consistent with rate designs for electric and natural gas service.

- It would be fairer to small households.
- It would allow customers to better control their cost of service.
- It would encourage water conservation.

Finally, the AGO states that the new rate design would respond to requests that customers have posed in past rate cases and recent public hearings. See, *e.g.*, public testimonies from Eric Galamb Tr. vol. 10, 72; Wendy Stevens *Id.* at 88-89; Michelle Raymond Tr. vol. 9, 24; and Sheeba Jumma *Id.* at 120.

### **Conclusions**

Based upon a careful consideration of the entire record in this proceeding, the Commission reaches the following conclusions discussed below regarding the contested rate design issues in this proceeding.

Aqua NC's rate design for water utility service provided to its residential customers should continue to be based on the following fixed/variable ratios which were proposed by the Public Staff and approved by the Commission in the Company's Sub 497 rate case: 40%/60% for the Aqua NC Water Rate Division; 41%/59% for the Brookwood Water Rate Division; and 44%/56% for the Fairways Water Rate Division. To further promote water conservation and to give customers more control over their monthly wastewater bills, it is appropriate to implement volumetric wastewater rates with an 80% base facility charge and a 20% volumetric charge for all the Aqua NC and Fairways wastewater customers that receive water utility service from Aqua NC or Fairways water, and for whom water meter readings are presently available, excluding the approximately 800 sewer customers in the Aqua NC Water Rate Division Conservation Pilot Program.

In determining the appropriate fixed/variable ratios for Aqua NC's water and wastewater operations, the Commission seeks to strike an appropriate balance between achieving revenue sufficiency and stability to ensure quality, reliability, and long-term viability for Aqua NC on the one hand, and setting fair and reasonable rates that effectively promote efficiency and conservation on the other hand. The Commission gives significant weight to the uncontested fact in this proceeding that short-term fixed expenses account for 83% (or higher) of Aqua NC's expenses for wastewater service and 89% (or higher) for water service. However, the Commission acknowledges the testimony in this proceeding that there are critical considerations of policy beyond the basic matching of the utility's revenues and expenses. The Commission gives significant weight to the testimony of Aqua NC witness Thill that customer affordability and conservation are two of the policy considerations that are better achieved through rate structures that recover a greater portion of costs through volumetric charges.

Public Staff witness Junis recommends a base charge to usage charge ratio of 30%/70% for Aqua NC Water, Brookwood Water, and Fairways Water stating that his recommended incremental shift to higher volumetric charges sends a price signal that properly promotes water efficiency and conservation. The Commission gives significant weight to the testimony of witness Thill that the Public Staff's higher volumetric rate design

proposals provide further customer incentive for efficiency and conservation but, in so doing, they serve to exacerbate the Company's current concerns expressed in this proceeding regarding revenue sufficiency and stability. The Commission concludes that the Public Staff's rate design proposals in this case meet only one prong of the test; they encourage conservation but largely ignore Aqua NC's legitimate revenue sufficiency and stability concerns. The Public Staff's increased volumetric rate design adds greater challenges to the Company's revenue sufficiency and stability, particularly when that rate design is not coupled with corresponding revenue reconciliation measures. The Commission favors and encourages development of rate design proposals that may better achieve utility revenue sufficiency and stability while also sending appropriate efficiency and conservation signals to consumers. The Commission concludes that based upon the evidence presented in this proceeding, the Company's request to maintain the fixed/variable ratios for its water operations previously approved in the Sub 497 rate case are reasonable and should be approved.

In regard to wastewater rate design, for purposes of this proceeding, the Commission concludes that an 80% base facilities charge and a 20% volumetric charge wastewater rates are reasonable and appropriately send signals to consumers that support and encourage water efficiency and conservation and give customers more control over their monthly sewer bills. Further, the Commission gives significant weight to the testimony of Public Staff witness Junis that with metered sewer billing, low users would have lower bills and high users would have higher bills. Thus, the Commission finds that a metered sewer rate would accentuate the conservation efforts of the Aqua NC water customer that is also an Aqua NC sewer customer. However, the Commission acknowledges that smaller households may pay less under a metered sewer rate structure as noted by the AGO than larger households.

The Commission determines that, although the Public Staff's recommended 60/40 base to usage ratio for all the Aqua NC Sewer and Fairways Sewer residential customers that have Aqua NC Water and Fairways Water metered utility service would also send signals to consumers that support and encourage water efficiency and conservation, such ratio would significantly disassociate sewer revenues from sewer expenses since much of the fluctuation in water revenues is due to irrigation and other customer behaviors that have no effect on sewer operations. That is, when sewer rates are metered based on metered water usage, customers who use water for lawn and garden irrigation, for washing automobiles and other recreational usages, without an irrigation meter, for example, may pay for sewer services they do not receive. Thus, the Commission concludes that the approved wastewater rate design of 80% base facilities charge to 20% volumetric charge would appropriately support and encourage water efficiency and conservation while also recognizing that not all water usage by customers results in wastewater costs. Finally, with respect to the Public Staff's proposed wastewater rate design, the Commission finds that the Public Staff's proposed wastewater ratio would create such a significant change in Aqua NC's rate design with its 60/40 base to usage ratio would likely create further instability and insufficiency in the Company's revenue stream.

In regard to Aqua NC's proposed continuation of flat rate sewer residential rates, although such flat sewer rates are simpler to administer for the utility and would provide a more predictable and stable revenue stream for the Company, flat rates do not encourage water efficiency and conservation, which are two of the stated goals in the generic rate design proceeding (Docket No. W-100, Sub 59) nor does it sufficiently align rates to the cost of service for customers that use very little water and sewer service. Further, the AGO notes that some of Aqua NC's customers have requested that the Company implement metered sewer rates in both past rate case proceedings and in the recent public hearings. Consequently, based on the evidence provided, the Commission approves a wastewater rate design of 80% base facilities charge/20% volumetric charge for Aqua NC Sewer and Fairways Sewer residential customers that have Aqua NC Water and Fairways Water metered utility service. Such rate design is fair to both Aqua NC and its customers. The Commission acknowledges that such a rate structure will result in a higher bill for customers who do extensive irrigation and do not have a separate irrigation meter and that customers who do irrigation through irrigation meters may not experience the same conservation signal if they are not included in the Aqua NC Water pilot program. This group includes irrigation meter customers that would have been included in the Fairways Water Rate Division pilot program had the Commission approved the pilot for that service area. For this reason, Aqua NC should evaluate and propose a separate rate for water provided through an irrigation meter in future rate case proceedings as well as rate designs that provide increased pricing incentives for reducing irrigation use for all customers who use an in-ground irrigation system.

As stated in Public Staff Late Filed Exhibit No. 2, there are 8,853 Aqua NC Sewer and 2,877 Fairways Sewer customers that have Aqua NC metered water utility service. There are 6,673 Aqua NC Sewer and 151 Fairways Sewer customers that obtain their water from providers other than the Company. These customers will remain flat rate wastewater customers. This approval of the 11,730 wastewater customers for volumetric wastewater rates is not an unreasonable preference or advantage to those residential customers, as the group includes all the Company's residential wastewater customers that received metered water utility service from the Company for which water meter readings are available monthly. Similarly, all the Company's remaining residential wastewater customers that do not receive metered water utility service from the Company with meter readings will continue to receive flat rate wastewater service.

With respect to Aqua NC's rate design for metered commercial customers, it is reasonable and appropriate for the Company's rate design for these commercial customers to be based on a metered usage rate design of 80%/20% rather than the 60%/40% ratio recommended by Public Staff witness Junis.

Finally, the Commission concludes that Aqua NC should evaluate the implementation of metered sewer rates for residential customers on customers' monthly sewer bills. Aqua NC is directed to report to the Commission on an annual basis, monthly historical consumption levels compared to the current monthly consumption levels for the customers converted from a flat sewer rate to a metered sewer rate to determine the change in consumption levels. Such report should state, at a minimum, the subdivision

name, the number of customers billed (historical month and current month), monthly consumption billed (historical and current), and the sewer revenues billed (historical month and current month). Such annual report may be revised as needed in future filings as determined by Aqua NC, the Public Staff, and the Commission. Further, that Aqua NC is directed to file these reports within 45 days after the calendar year ends, beginning with the calendar year ending December 31, 2021.

## **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 30-44**

### **Conservation Pilot Program**

The evidence for these findings of fact is contained in the Application; the testimony and exhibits of Aqua NC witnesses Becker and Thill; the testimony and exhibits of Public Staff witness Junis; the testimony of public witness Becky Daniel; the late-filed exhibits filed by Aqua NC and the Public Staff at the request of the Commission at the expert witness hearing; and the entire record in this proceeding.

#### ***Summary of Aqua NC Witness Edward Thill's Direct Testimony***

Aqua NC witness Edward Thill testifies on direct that the Commission, in Docket No. W-100, Sub 59, initiated "a discussion of rate design proposals that may better achieve revenue sufficiency and stability while also sending appropriate efficiency and conservation signals to consumers." In response to that request, Aqua NC (filing jointly with Carolina Water Service, Inc. of North Carolina on June 19, 2019) offered to conduct a pilot program in its next rate case to evaluate the effectiveness of an inclining block volumetric rate design. The purpose of the proposed pilot is to examine a new rate structure that could send conservation-inducing price signals to residential customers, while preserving the utility's ability for sufficient and stable cost recovery.

Witness Thill testifies that Aqua NC proposes a pilot program rather than applying inclining block rates to all of the Company's customers because there are many variabilities in an inclining block structure, from the number and size of the blocks, to the various step points, and even the absolute levels of rates necessary to accomplish its intended objective. Each of the seven largest cities in North Carolina uses an inclining block structure, and each is vastly different from the others. For example, 5,000 gallons of water in Fayetteville would cost a consumer \$28.87, while Charlotte would only charge \$16.89 for the same consumption. However, at 20,000 gallons, he calculates that Charlotte would charge \$157.02 compared to Fayetteville's \$99.62. He states that the conservation signal is clearly much stronger in Charlotte for the high-end user, but Fayetteville's design offers far less volatility for both the customer and the municipality.

According to witness Thill, there are critical assumptions made in the design that may or may not prove valid. This adds increased risk to the stability of the Company's revenues, even if sufficiency is ultimately secured by other mechanisms. The use of a pilot---actually two pilots, one for the four water system customers included in the ANC Water rate design pilot and one for the Fairways Water system customers rate design

pilot---will better allow Aqua NC to analyze the results each pilot will have on a smaller scale before designing and applying any one or more final rate designs to the larger population of Aqua NC customers. The Company thinks it would be imprudent to subject the entire customer base to such a dramatic structural change without first determining the effects of that change on a smaller representative sample of customers.

Witness Thill testifies that Aqua NC focused its pilot program on systems that had the greatest opportunity for both conservation and operational relief, while also ensuring the pilot group was sufficient in size and diversity to provide meaningful results that the Company might extrapolate across its full customer base in future rate design planning. Aqua NC additionally chose systems within two separate rate entities and developed separate rate structures that will allow the Company to further assess the actual impact of the differing designs for future implementation. Each of these systems serving the service area proposed to be part of the pilot is experiencing stress to meet peak demand and could soon require capital investment if conservation is not realized in the near term.

The service areas selected were: The Cape (Fairways); Arbor Run (Aqua NC Water); Bayleaf Master System (Aqua NC Water); Merion (Aqua NC Water); and Pebble Bay (Aqua NC Water). Witness Thill states that with nearly 11,000 premises included in this pilot, the program covers approximately 13% of the Company’s water customers and includes representation in each of its geographical areas. The five service areas vary significantly in size, consumption volatility, and absolute level of consumption. Witness Thill provides Thill Revised Direct Exhibit 3 which contains key statistics for customers within these pilot groups.

In describing how the blocks were derived for the pilot program, witness Thill testifies that although significant research has been conducted in the area of water rate design, no consensus exists as to an optimal structure. Each of the seven largest cities in North Carolina uses an inclining block structure, and each is vastly different from the others. Aqua NC chose the following break points in measuring customer gallons of consumption per month:

	<b>Aqua NC</b>		<b>Fairways</b>	
	<u>From</u>	<u>To</u>	<u>From</u>	<u>To</u>
Block 1	-	4,000	-	5,000
Block 2	4,001	8,000	5,001	10,000
Block 3	8,001	15,000	10,001	20,000
Block 4	15,001	Above	20,001	Above

Because this is a zero-sum exercise, witness Thill testified that there are necessarily winners and losers in any change to the pricing structure. In this case, the low volume users will experience an overall reduction in their average monthly bills at the expense of the heaviest volume users. This is consistent with the concept that although

most of the utility's expenses are fixed, it is the peak demand requirement of a system's heaviest volume users that fosters the greatest incremental cost. Aqua NC's focus was on providing rate relief for customers whose usage falls within lower usage blocks and to induce conservation in those whose usage falls within higher usage block levels. The Company's challenges included:

(1) Creating sufficient rate impact to induce conservation by those taxing the system the most, while not unduly penalizing this subset of the utility's customer base;

(2) Recognizing (financially) the level of increased strain that high-volume users place on operating the system, not to mention the added water quality challenges that result from stressing existing source capacity, while still acknowledging that much of the utility's costs are in providing everyday access to water, regardless of volume consumed, and should therefore be borne by all customers;

(3) Retaining some level of conservation incentive even for the lower volume users (58% of test year bills for pilot customers were less than 5,000 gallons);

(4) Creating conservation incentive for high-volume users in Fairways where the cost of water is already comparatively low, but without giving it away to lower volume users in order to achieve the revenue requirement; and

(5) Providing for revenue sufficiency and ensuring revenue stability for the Company.

Witness Thill states that the cost per kilogallon for each block in the ANC structure increases by factors of 1.5X, 2.25X and 3.0X, with X representing Block 1 rates. Due to the low level of rates already in place for the Fairways rate entity, Aqua NC opted for a much higher ratio for that entity's Block 4. The Company's blocks for Fairways water are set to increase by factors of 2.0X, 3.5X and 5.0X, with X representing Block 1 rates. Witness Thill states that Exhibit J to the Application contains a full schedule of proposed rates for the pilot program.

Witness Thill testifies that the success of this design will not be known for some time, which adds to the Company's justification for a measured approach in using a pilot group for our first attempt at conservation rates.

Witness Thill states that Aqua NC's pilot program considers irrigation rates to the extent possible. As discussed in Aqua NC's June 28, 2019 response to Docket No. W-100, Sub 59, "Order Requiring Verified Information", separate irrigation meters are only required:

- (1) in large community water systems, as defined in G.S. 130A 313(10), that regularly serve 1,000 or more service connections or 3,000 or more individuals;
- (2) that were platted after July 1, 2009; and

- (3) do not otherwise have a lockable cutoff valve for backflow prevention.

Witness Thill further stated that, in that same response, the Company noted that it had only 1,449 irrigation meters among its more than 80,000 water connections. Although the Company is confident that other customers irrigate through their primary connection, the Company is not able to impose specific irrigation household rates on households that validly irrigate without a separate meter.

Witness Thill states that Aqua NC's proposed pilot rates would assess Block 3 and 4 rates for all separate irrigation meters, that is, ANC customers with irrigation meters would pay the Block 3 charge for their first 15,000 gallons per month and the Block 4 rate for consumption above that threshold. Similarly, Fairways irrigation customers would pay the Block 3 rate for their first 20,000 gallons per month and the Block 4 rate above that threshold. Though Aqua NC is unable to assess separately irrigation related consumption for customers irrigating through their standard household meters, the Company expects that most irrigation-related consumption would be captured in proposed Blocks 3 and 4. The Company therefore assesses that this structure would provide equitable treatment and similar conservation signals to its irrigation customers regardless of the presence or absence of separate irrigation meters.

Witness Thill testifies that the intent of implementing an inclining block rate structure is to promote water conservation. It is, therefore, critical that the reduced customer consumption specifically intended by this pilot program is fully considered in the establishment of rates. Failure to consider the reduced consumption would assure that the Company's revenue will fall short of authorized levels.

According to witness Thill, the Company has, therefore, attempted to address revenue sufficiency and stability in two ways. First, the consumption estimates Aqua NC used to determine pricing bands in the pilot areas have been reduced to reflect demonstrated trends in price elasticity. Price elasticity measures the responsiveness of consumption to price changes. There are of course many factors that influence water demand (price, weather, and income, among others) but research---particularly on price elasticity---has been fairly extensive. The Company incorporated an elasticity of -0.3 in its consumption projections. That is, a 10% increase in consumer cost is assumed to drive a 3% decline in consumption. There has been extensive research on the subject of price elasticity in the water industry and Aqua NC established its rate based in part on the work of Sheila Olmstead and Robert Stavins, as published by the National Bureau of Economic Research in 2008, "Comparing Price and Non-Price Approaches to Urban Water Conservation". The authors conclude, based on their own work as well as a review of other large studies, that:

"The price elasticity of residential demand varies substantially across place and time, but on average, in the United States, a 10% increase in the marginal price of water in the urban residential sector can be expected to diminish demand by about three to four percent in the short run." [Page 8]

Further in support of that figure, the UNC School of Government Environmental Finance Center in its 2009 report required by NCUC Docket Nos. W-218, Sub 274 and W-224, Sub 15, stated:

“ . . . we assumed a price elasticity of -0.3, meaning that for every 10% increase in the total bill that the customer receives, the customer responds by decreasing their water consumption by 3%. This elasticity is based on the most recent and focused analysis on water price elasticity in North Carolina.”

Witness Thill states that if a consumption decline is not factored into the rate design process, any success of the program as proven by reduced consumption will necessarily be absorbed by the utility in the form of insufficient revenue and reduced return on common equity. Even if a revenue reconciliation process is approved, the burden of the initial revenue shortfall will be financed by the Company. Incorporating a consumption decline, or repression, in the calculation ensures that the utility is not working against its own interest in further funding the public policy initiative of conservation. The Company's second measure to ensure revenue adequacy and stability is the implementation of a revenue reconciliation process specific to the pilot areas. Note that this revenue reconciliation is specific to, and integral to, the pilot program. The reconciliation should be evaluated on its own merits and not in the context of any separate discussion on a proposed Consumption Adjustment Mechanism that might be applied to customers outside of the pilot program. Considering the many variables that influence water demand and that this pilot program intentionally means to increase the variability of that demand, as a general matter of fairness there must be a settlement process to ensure that neither the pilot customer group (as a whole) nor the utility is unduly harmed or enriched by this program.

Regarding the purpose of the revenue reconciliation, witness Thill testified that the ratemaking equation, put simply, is that X number of customers should pay an average of Y dollars each to produce Z dollars of revenue. Just as expenses (the driver of Z) are fixed, customer count (X) is also fixed as of a point in time. Customer count and expenses are considered only to the extent they are known and measurable as of the end of the post-test year period. The deficiency in the calculation is that the average revenue per customer (Y) requires the use of an unknowable amount of consumption. The revenue reconciliation corrects for that unknowable element of the equation. Although parties may reasonably disagree with the consumption assumptions, the intent is that the Company should receive its full authorized revenue requirement, no more and no less. If past customer behavior fully foretold future behavior, there would be no need for a revenue reconciliation process. He states that is not Aqua NC's reality, but the customer behavior does not significantly change the utility's revenue requirement. The revenue reconciliation seeks to simply correct the deficiency in the original rate setting that was created using historic irregular consumption patterns.

Witness Thill testifies that, for illustration purposes, Thill Revised Direct Exhibit 4 provides sample revenue reconciliation calculations under three different scenarios, but

the concept is consistent within each of those illustrations. Dividing the volumetric revenue requirement by the number of bills used in determining rates provides Aqua NC with the Revenue per Bill - as Authorized. Aqua NC would perform a similar calculation using actual data in the 12 full months following implementation of rates to determine the Revenue per Bill - Actual. The difference between those actual and authorized averages would define the Company's Average per Customer Usage Excess or Deficit. Dividing that Excess or Deficit by the Revenue per Bill as Authorized provides Aqua NC Excess or Deficit Rate. The Rate is then multiplied by the originally authorized volumetric revenue to determine the value of the excess or deficit.

Witness Thill states that, after allowing three months to collect and analyze the data, surcredits or surcharges would be assessed over a 12-month period in order to settle balances within one year. If the average customer bill is less than authorized, that would typically reflect that consumption was less than modeled in the original ratemaking (customers over-conserved). In this scenario, had Aqua NC known the future volumes at the time rates were set, volumetric rate levels would have been set higher. The Company therefore proposes to assess a volumetric surcharge on future consumption during the recovery period to recover any deficit.

According to witness Thill, if, however, the average customer bill is greater than authorized, that would typically reflect that consumption was more than modeled in the original ratemaking (customers under-conserved). In that case, Aqua NC proposes to refund the excess as equal credits (surcredits) to the BFC of all customers over a similar 12-month period. Any surcredit that may result is proposed to be applied to the BFC, versus volumetrically, in order to avoid diminishing the conservation signal intended to be sent to the highest volume consumers. If applied volumetrically, a surcredit would allocate a marginally larger credit to the highest users and lessen the intended conservation signal. Any over or under recovery as a result of fluctuations between the actual components of the calculation and the assumed components in determining the surcredits or surcharges would roll into the subsequent period's calculation of the excess or deficit.

Witness Thill testifies that customer growth is not included in the revenue reconciliation computation. Consistent with the explicit language of House Bill 529 (Session Law 2019-88) which was signed into law on July 8, 2019, the proposed revenue reconciliation calculation is computed based on "average per customer usage". To compute the reconciliation adjustment at a gross level of revenue, rather than at a per customer average level, would ignore that a portion of future revenue may be attributed to customers added after the test year and would therefore incorporate a projective component to the ratemaking equation. While the Company is supportive of a fully projected test year, it is not supportive of a selectively projected test year. The Company thinks that using a prospective customer count without also incorporating future cost increases should not be permitted.

Witness Thill testifies that Aqua NC proposes a revenue reconciliation only for the pilot group. Consumption volatility creates a deficit or excess compared to the utility's

authorized revenue and, therefore, a variation from its authorized return. Generally, the drivers of consumption volatility are shared across the Company's customer base. However, the pilot has added separate and distinct variables to purposefully drive greater consumption volatility within this subset of customers. To the extent pilot customers pay too much or too little as a result of the unknowable impact of the change in rate structures affecting only them, the benefit or detriment is confined to the pilot group and any settlement activity should similarly be borne by or inure to the benefit of only that subset of customers.

Witness Thill testifies that implementation of a revenue reconciliation for the pilot group is in the public interest. The purpose of the revenue reconciliation is to correct for an unknowable component of the initial ratemaking calculation. The Commission will have already ruled on a revenue amount that is reasonable and appropriately within the public interest. If the consumption levels were knowable, there would be no need for a reconciliation process as the rates would have been set at the appropriate level to allow for full revenue recovery by the utility. The revenue reconciliation process simply allows the utility to achieve the authorized amount already deemed in the public interest.

Witness Thill further states that a revenue reconciliation is integral to the pilot program. If the utility's revenue sufficiency cannot be guaranteed within this conservation program, the Company feels it would be imprudent to accept, on behalf of its shareholders, the additional financial exposure that this or any other conservation program might create. If Aqua NC is not afforded an ability to true up its revenue periodically throughout the pilot program, the Company reserves the right to withdraw its request to implement the proposed pilot rates and, instead, requests that the consolidated rate design be applied to all customers within their applicable rate entities.

***Summary of Aqua NC Witness Thill's Testimony in Response to Cross-Examination, Questions from the Commission, and on Redirect***

In response to questions from Public Staff Attorney Grantmyre on cross-examination regarding the Company's proposed conservation pilot program, witness Thill agreed that reducing the Company's water base facility charge would help low income persons or persons using low amounts of water, if that was the only consideration. He went on to state that "...it's a balancing act. So to provide more relief at the lowest block, you've got to charge the highest block considerably more. And our analysis was showing that some of those people in the higher blocks were already having an increase of doubling their rates." Tr. vol. 4, 71. Witness Thill stated that the pilot systems are representative of the type of systems where the Company is trying to induce conservation. Witness Thill accepted a premise from the Public Staff that, subject to check, that the average water usage is 7,420 gallons per month for the four water systems in the Aqua NC Water Rate Division and that average consumption for the remainder of the Uniform Water Systems calculates to 4,149 gallons per month per customer. Witness Thill stated that it makes sense that the pilot program has a much higher usage, since those are the customers from whom the Company is trying to get conservation.

Witness Thill was asked to read into the record the following data request responses provided by the Company during discovery as set forth in Public Staff Thill Direct Cross Examination Exhibit 1:

The Company did not perform a scientific study to determine systems for inclusion in the conservation pilot but rather relied on the subjective input of the operations team that manage the challenges of these stressed systems each and every day. Bayleaf and The Cape were early nominations for inclusion due to their known operational challenges, particularly during irrigation season, as well as their vast sizes that might allow for greater conservation impact. Arbor Run, Merion and Pebble Bay each experiences operational challenges as well and were added to the pilot in order to add further diversity in geographic location and customer consumption patterns.

Regarding operational cost savings, the Company has assumed a certain level of repression in the consumption rates of the pilot customers as explained in Testimony. The cost savings associated with that reduced volume flows through variable operating expenses such as power and chemicals in the consumption adjustment factor.

Projected future capital (sic)<sup>32</sup> spend is not a direct consideration in the general rate case. As such, avoidance of any such potential future capital costs was similarly excluded from the rate case considerations.

On cross-examination, witness Thill further testified that the Company is requesting approval of a revenue reconciliation process in conjunction with its pilot program that is “conceptually similar” to a CAM. He responded with an explanation as to why the Company does not think it is appropriate to include projected customer growth in the revenue reconciliation process.

On redirect, witness Thill testified that one of the considerations which caused the Company to withdraw its request for a CAM in this case was timing in the middle of the rate case which made it infeasible to move forward with a CAM. In addition, witness Thill noted the Public Staff’s stated opposition to Aqua NC’s proposed CAM in its testimony. Witness Thill also stated that the revenue reconciliation procedure was an integral part of the Company’s proposed pilot program because there are so many moving parts. In addition, he testified that the Commission cited the specific language of the CAM legislation in its rulemaking docket, “. . . which talks about average per-customer use, as opposed to total revenue, which has been the position of the Public Staff.” Similar to its objections to approval of a CAM in this case, witness Thill testified that the Public Staff also “. . . objected to the pilot overall, and specifically to the revenue reconciliation.” He further stated that the Company’s revenue reconciliation, as proposed for the pilot program, does not include an adjustment for customer growth; instead, it measures on

---

<sup>32</sup> The proper word used by witness Thill was “capital”.

the average per-customer use, which he believed to be consistent with the Commission's recent ruling in the CAM rulemaking. Tr. vol. 4, 83-85.

Regarding the Company's high percentages of fixed costs of providing water and sewer utility service and how that factors into the Company's proposed rate design, witness Thill stated that:

Well, there's a balance that needs to be maintained. You know, if the only consideration was conservation, then it should be fully volumetric. If the only concern was the stability of revenues for the utility, then it should be flat rate. There has to be a balance somewhere in between. And so as we look at our expenses being primarily fixed for both water and sewer, you know, we've got 90 percent -- or almost 90 percent of our costs on the water side are fixed, but only 40 percent of our current revenue stream is fixed on the water side. And that's an imbalance that puts us at risk. Tr. vol. 4, 86.

In response to questions from Commissioner McKissick regarding price elasticity and repression, witness Thill described in detail why the Company focused on the National Bureau of Economic Research (NBER) Report in developing the proposed pilot program. See Tr. vol. 4, 92-95. Witness Thill also described in detail how the revenue reconciliation process would work. Tr. vol. 4, 95-97. In response to a question as to whether Aqua NC intends to include in its calculation those carrying costs for either the deficit or excess due to the revenue reconciliation for the pilot program, witness Thill replied that:

I don't think we've gone on record as to say whether or not we believe there should be a carrying cost adjustment. I would just suggest that, as a matter of fairness, that if the Commission decides that there should be a carrying cost, that it go either way. So that to the extent there's an excess or a deficit, there would be a carrying cost assigned in a similar manner.

Tr. vol. 4, 97.

When asked by Commissioner McKissick to address how long Aqua NC would reasonably anticipate that the pilots would last and what the timeline would be, witness Thill responded as follows:

That's a very fair question. In fact, we've had some of those conversations with the Public Staff as well. This, of course, in order to get usable data, is going to take some period of time. And it's going to take -- you know, we use a three-year average currently in the ratemaking because seasonality will have impacts, and that will also have impacts with regards to what we see in the consumption patterns of these pilot program individuals.

So we would suggest that this has to last at least two to three full cycles in order to get usable data. And, you know, so this is something that should

be evaluated, we believe, as part of, you know, future rate cases. So we have -- Aqua has indicated that we're likely to be back for rates on a fairly tight schedule going forward, as tight as 15 to 18 months. That won't give us two cycles in the next case, so it's probably, you know, two cases ahead of us where we can be in a position to provide some data to determine whether or not the pilot should either be terminated or expanded to the entire population, or just tweaked. Tr. vol. 4, 98-99.

In response to questions from Commissioner Hughes regarding the availability of information concerning the percentage of Aqua NC's pilot project customers that rely on direct draft or paperless delivery -- paperless billing, witness Thill agreed to file a late-filed exhibit regarding the percentages of the Company's customers that currently have direct draft or paperless delivery.

In response to additional questions from Public Staff Attorney Grantmyre, witness Thill stated that the Company's proposed pilot, if implemented, would delay implementation of inclining block conservation rates for all of Aqua NC's customers in order to allow time for the Company to understand how such rates might be implemented for all customers and what that impact might be. When asked if the Company could, in its next rate case, file for increasing block rates for all the customers and introduce a CAM at the same time, witness Thill replied that:

We could. I don't know what that structure would look like, because we just don't have that kind of data yet. Again, I'll point to the analysis just between, I believe it was Fayetteville and Charlotte, that the two programs are very different, both in their BFC as well as their volumetric element. And so they have a very different conservation signal. And part of that might have to do with, you know, any number of factors, the socioeconomic piece of those two groups. Tr. vol. 4, 113.

On redirect by Aqua NC's counsel, witness Thill expounded upon why the revenue reconciliation mechanism is crucial to the Company's willingness to put this pilot project into effect. Tr. vol. 4, 114-115. Witness Thill also testified that the Company's situation would be exacerbated if the Commission were, in effect, to approve both the pilot and the Public Staff's recommended rate design of 30%/70% for water and 60%/40% for sewer. He stated that:

And the Public Staff's position would continue to drive greater variability in revenue, and at the same time do that with the intent of creating further conservation, which not only makes it more variable, but also less likely to achieve the three-year average consumption levels that have been used to determine rates. Tr. vol. 4, 116.

In further amplification of his response to a previous question asked by Attorney Grantmyre, witness Thill testified that, while Aqua NC could propose to implement inclining block rates for all of its customers in its next general rate case, that is not what

the Company recommends in this case. The Company wants to implement its proposed conservation pilot program. Witness Thill further stated that:

...We want to start getting information. And, you know, we could do as Mr. Grantmyre said and propose a Company-wide version next time. We could have proposed a Company-wide version today. But the reality is that we don't know what that would look like. And if you were to talk to the City of Charlotte, if you were to talk to the City of Fayetteville, they would give you two different answers because they have two very different structures themselves.

We did talk to the City of Raleigh and got some of their concerns or considerations as they went through some of their rate design elements. I know Mr. Becker had those conversations. So, you know, we've done some of the research. Ultimately, the answer is we're not sure. You know, we're just trying to get the best information available today to start this process. You know, the longer we wait -- and this is part of Mr. Grantmyre's point, I believe, is that the longer we wait, the less effective it is. So we need to start getting some information, and that's why we've got the pilot out there today. Tr. vol. 4, 116-117.

In response to a further question from Aqua NC's counsel, witness Thill agreed that the Public Staff could itself have proposed a Company-wide rate design that included inclining block rates but did not do so. Witness Thill further stated that in the Commission's rate design rulemaking proceeding (Docket No. W-100, Sub 59), the Public Staff did recommend that block rate design is the optimal way to go. Witness Thill asserted, however, that the Public Staff made no such proposal in this case. He further stated that, even more interesting, is that the Public Staff proposed a 30%/70% rate design in this case assuming that the CAM was either rejected by the Commission or withdrawn by the Company. But here, the Public Staff put forth a proposal that would create greater uncertainty with a greater volumetric number for Aqua NC, but conditioned it on that there not be a revenue adjustment mechanism to provide a floor for the Company. Witness Thill testified that while there is reference in the Public Staff's testimony that repeats some of the language of the Commission about trying to create conservation and efficiency while also measuring up against revenue stability and sufficiency, "I don't see that as a two-sided equation coming from the Public Staff's version." Tr. vol. 4, 117-19.

### ***Summary of Public Staff Witness Charles Junis' Testimony***

Public Staff witness Charles Junis testifies that, in its application and as detailed in the direct testimony of Aqua NC witness Edward Thill, the Company has proposed a "Conservation Pilot Program" to implement tiered inclining block volumetric rates, including separate irrigation rates, to be charged to residential water customers in the Arbor Run, Merion, Pebble Bay, and Bayleaf Master System service areas (Aqua NC Water rate entity) and The Cape service area (Fairways Water rate entity). As part of the proposed Conservation Pilot Program, the Company incorporates a projective repression

of usage levels below the three-year average already subjected to the Company's proposed Conservation Normalization Factor. In addition, the Company requests a revenue reconciliation to be computed within the pilot program that would guarantee that the revenue requirement per bill be recovered in rates.

Witness Junis testifies that the Public Staff has concerns about the practicability, fairness, and value of the proposed pilot program. While well-designed inclining block rates can effectively promote conservation, the Public Staff has identified the following concerns with the Company's proposed pilot program: (1) the pilot is a limited and unrepresentative sample of residential customers, (2) would not "provide meaningful results that we might extrapolate across the Company's full customer base in future rate design considerations" as the Company claims, (3) reverts to ratemaking with system-specific rates as opposed to uniform rates, (4) ignores the overlapping purpose of House Bill 529 and Commission Rules R7-40 and R10-27, (5) the potential benefit(s) of the program may be outweighed by the valuable personnel resources of the Company, Public Staff, and Commission required to implement and track the pilot, and (6) nearly guarantees service revenues, thus reducing risk. In addition, singling out groups of customers would be discriminatory and potentially prejudicial if those customers' bills increased significantly under the inclining block rates in comparison to other customers charged uniform usage rates, or vice versa for low usage customers.

Witness Junis states that Company witness Thill states the following regarding the sample of customers chosen for the pilot program:

The use of a pilot---actually two pilots, one for the four water system customers included in the ANC Water rate design pilot and one for the Fairways Water system customers rate design pilot---will better allow us to analyze the results each pilot will have on a smaller scale before designing and applying any one or more final rate designs to the larger population of Aqua customers. The Company believes it would be imprudent to subject the entire customer base to such a dramatic structural change without first determining the effects of that change on a smaller representative sample of customers. *Id.* at 16.

According to witness Junis, Thill Revised Exhibit 3 provides statistics for the systems proposed for the pilot program. From this table, it is clear that these are above average or high-usage systems that are not representative of uniform water residential customers. Company witness Thill states, "I focused our program on systems that had the greatest opportunity for both conservation and operational relief . . . ." and "Each of these systems is experiencing stress to meet peak demand and could require (potentially near-term) capital investment if conservation is not realized." In response to a Public Staff data request regarding operational relief, expense savings, and avoided costs, the Company stated that it relied on subjective input from operations staff, "cost savings associated with the reduced volume [repression] flows through variable expenses such as power and chemicals in the consumption adjustment factor," and because "[p]rojected future capital spend is not a direct consideration in a general rate case" then "avoidance

of any such potential future capital costs was similarly excluded from the rate case considerations.” The potential benefits are subjective based on the limited supporting documentation referred to above. The Company appears to describe operations in crises due to high volume users on one hand, yet on the other hand, fails to meet its burden to describe how the pilot may result in relief to these systems or an avoidance of capital expenditures.

Witness Junis testifies that the Company proposes the use of a price elasticity constant that is described in two sources referenced on page 22 of the direct testimony of Company witness Thill and is not specific to Aqua NC’s customer base, to prospectively reduce consumption based on the proposed price increase to the volumetric rate within the inclining block rate structure. While a price elasticity of -0.3 may be expected on average, the projective regression applied to the customer consumption data is in addition to the Company’s Conservation Normalization Factor. The Company’s proposed factor most certainly includes some degree of price elasticity impact as Aqua NC has increased its rates three times during the analysis period of three-year averages from October 1, 2008, to September 30, 2019, (updated to April 1, 2009, to March 31, 2020). In addition, the regression ignores the socio-economic demographics of the systems that may make them less sensitive to price signals. The Company’s combination of the price elasticity, Conservation Normalization Factor, and failure to take into account socio-economic demographics is likely to result in the overestimation of the expected consumption reduction.

Witness Junis states that while limited in scope to the pilot program, the proposed revenue reconciliation is materially the same as the proposed CAM. Similar to the Company’s reservation of the right to withdraw its request for a CAM, Company witness Thill states, “If is not afforded an ability to true-up its revenue periodically throughout the pilot program, the Company reserves the right to withdraw its request to implement the proposed pilot rates and, instead, requests that the consolidated rate design be applied to all customers within their applicable rate entities.” This creates a scenario rife with uncertainty in which any variation to the Company’s proposed revenue reconciliation or the CAM could prompt the Company to withdraw the request and it is unclear when that might happen. This uncertainty could drastically impact interrelated issues such as the pilot program, CAM, rate design, and rate of return. Therefore, in order that the pilot request and its potential impact on other issues may be properly investigated and evaluated, the Company should not be permitted to alter its request indefinitely.

Witness Junis concludes his testimony by stating that the Public Staff recommends that the Commission deny the Company’s proposal for a pilot program.

***Summary of Public Staff Witness Junis’ Testimony in Response to Cross-Examination, Questions from the Commission, and on Redirect***

In response to questions from Commissioner McKissick, Public Staff witness Junis testifies that, in his opinion, because the Company has targeted high-irrigation customers, or high-consumption customers:

. . .you cannot extrapolate those findings to the rest of the customer base . . . . So how can you implement a pilot and then extrapolate that information from these customers that have abnormally high usage and say, well, these low-consumption customers are also going to see some form of decrease or extrapolate those findings? Tr. vol. 5, 81.

Witness Junis further states that, in his opinion, a pilot should be a representative sample so that you can extrapolate those findings to the rest of the customer base. Now that the Company has explained or changed its proposal to define a period of time to run this pilot, that is another reason to deny it. Because you are now making a decision that not only impacts this rate case, but possibly one or two more rate cases to keep that pilot around long enough to get enough data. In response to Commissioner McKissick, witness Junis expounded at length with criticisms of the Company's proposed conservation pilot program, including criticisms of the revenue reconciliation process. Tr. vol. 5, 80–95.

In particular, with respect to Aqua NC's proposed revenue reconciliation process, witness Junis contends that the revenue reconciliation process proposed by Aqua NC eliminates risk for the Company by fully guaranteeing the revenues approved in Aqua NC's rate case as determined by the billing analysis. Witness Junis proposes a two-prong test to address this concern. The first prong would be whether the actual average consumption per customer decreased. He contends that this test would adhere to the requirements of the mechanism pursuant to N.C.G.S. § 62-133.12A " . . . to track and true-up variations in average per customer usage from levels approved in the general rate case proceeding . . . ." The second prong would be whether the total actual usage, either in terms of consumption or the amount of revenues corresponding to the consumption, decreased. Witness Junis states if both prongs of the test are met a surcharge should be implemented because Aqua NC would not be collecting the revenues anticipated in the Commission-approved rate design. He notes that if Aqua NC has experienced a decrease in average consumption per customer but its revenues exceed the revenue requirement approved in the rate case, a surcharge would not be needed because customer growth would have offset the decrease in consumption. Witness Junis further states that if the average consumption per customer has increased and revenues have also increased, customers should receive a surcharge credit. Finally, witness Junis states that in the average consumption per customer has increased but revenues have decreased, no surcharge would be required because the statutory requirement to address average consumption per customer has been met.

In response to a question from Commissioner Brown-Bland as to whether the Public Staff would be agreeable to the proposed reconciliation if it were based on the total revenue requirement in the pilot area, witness Junis testified that he agrees that the revenue requirement would be the threshold or the target for the reconciliation..

In response to questions from Commissioner Duffley, witness Junis testifies that the Public Staff, asserting the alleged flaws of the Company's pilot proposal, recommended a small shift to variable rates in this case, including a shift to metered wastewater that has been considered for years and years, but has not been implemented.

He also states that implementation of either a more expansive inclining block rate or rate design that promotes conservation should happen in the Company's next rate case and that it would be better if it was implemented across the board and with a CAM that considers the full picture.

In response to questions from Commissioner Gray regarding inclining block water rates, witness Junis testifies that, to his knowledge, the Commission has not yet approved use of such rates for any water utilities in North Carolina. Witness Junis also states that inclining block rates can penalize large families which have a higher level of non-discretionary usage, depending on the design of the blocks, so that they pay significantly more. There can also be situations where unrecognized water leaks develop which can result in a "giant" bill. Tr. vol. 5, 107–110.

Commissioner Clodfelter asked witness Junis a series of questions related to development of a proper experiment or pilot program, which would need to reflect diversity of geography, diversity of weather conditions, diversity of economics, and diversity of demographics. Witness Junis responded in detail. See Tr. vol. 5, 113–17. In particular, witness Junis agrees that case studies exist on inclining block rate designs that could be reviewed and analyzed against the profile of the Aqua customers and system operations. However, he notes that any rate design implemented for Aqua NC would likely be "tweaked" as actual experience is obtained. Witness Junis states that Aqua NC would be required to maintain consumption billing data in 1,000 gallons blocks for the Public Staff and Aqua NC to properly evaluate and structure an inclining block rate structure.

Witness Junis responded to multiple questions from Commissioner Hughes which related to rate design issues. See Tr. vol. 5, 118–130.

In response to questions from Public Staff Attorney Grantmyre, witness Junis testifies that, if the Company came back in its next rate case and proposed inclining block rates for all its customers in all areas of the state, and all the customers had the same inclining blocks, that would meet the criteria geographically, socioeconomically, usage-wise, and demographically, because if everyone is included in that rate design, it is then representative of all of them. Witness Junis further states that instead of the pilot program, the Public Staff would prefer that statewide inclining block rates be considered in the next rate case. He later modifies that statement regarding statewide inclining block rates by saying that "I think we would consider slightly modified inclining block rates for the different rate entities." Tr. vol. 5, 139.

### ***Summary of Aqua NC Witness Edward Thill's Rebuttal Testimony***

Aqua NC witness Thill testifies in rebuttal to the testimony offered by Public Staff witness Junis. Witness Thill states that on March 20, 2019, the Commission issued an Order Establishing Generic Proceeding and Requiring Comments in Docket No. W-100, Sub 59 (W-100, Sub 59, Order). The Order made the Public Staff, CWSNC, and Aqua NC parties to the proceeding and required the parties to file initial comments to include "a discussion of rate design proposals that may better achieve revenue sufficiency and

stability while also sending appropriate efficiency and conservation signals to consumers.” Witness Thill testifies that Aqua NC’s proposed conservation pilot program is a direct response to the Commission’s goals as stated in that docket.

Witness Thill responds to each of the concerns expressed by Public Staff witness Junis regarding the Company’s conservation pilot program. He testifies that the first two concerns expressed by witness Junis were that (1) the pilot is a limited and unrepresentative sample of residential customers and (2) the pilot would not “provide meaningful results that we might extrapolate across the Company’s full customer base in future rate design considerations” as the Company claims.

Witness Thill replies that because the Fairways Water system is one large system in its own rate division, the entirety of that rate entity is included in the proposed pilot and, therefore, the Public Staff’s concern regarding limitation and reasonable representation is not relevant for that portion of the pilot. Concerning the four systems in the Aqua NC Water Rate Division pilot, witness Junis states in reference to Thill Revised Exhibit 3: “From this table, it is clear that these are above average or high-usage systems that are not representative of uniform water residential customers.” Witness Thill states that Public Staff’s comment seems to imply that conservation programs should be equally focused on both high-usage and low-usage systems. Introducing a block structure for systems with consumption below the block limits provides no information on the cause-and-effect relationship of pricing and conservation. Additionally, conservation-inducing pricing for low users places a greater economic burden on those who can least afford it. These households are already likely to have minimal discretionary usage and are therefore less likely to experience any financial benefit of conservation. Alternatively, Aqua NC’s conservation pilot is intended to affect the discretionary users that are more prevalent in the high-usage systems.

Witness Thill testifies that the largest proposed participant system in the pilot is the Bayleaf master system in Wake County, serving approximately 6,000 households. Although that system would appropriately be deemed a high-usage system with average usage of over 7,300 gallons per month (gpm), the customer base is not a homogenous group of high-consumption households. Thill Revised Exhibit 3 introduces the concept of a volatility ratio that attempts to identify the magnitude of discretionary consumption in each household. The Exhibit shows that, while 26% of Bayleaf users have significant volatility (defined as having a volatility ratio greater than 4.0), only a slightly lesser 20% of that system’s users have minimal volatility (ratio of less than 1.5). To give perspective to that measure, witness Thill stated that, if we assume solely for purposes of this exercise that the average household uses 4,000 gpm on a non-discretionary basis, the low volatility user might spike to 6,000 gpm in a given period while the high volatility users would spike to 16,000 gpm or more. The volatility ratio exposes those customers with the greatest capacity for conservation, as evidenced by their own consumption, and are the target of this conservation pilot. Of the full year population of customers, 19% had low volatility and therefore low discretionary consumption. This group would be the primary benefactor of the initial conservation rates as they have a lower than average consumption pattern and

would therefore benefit from the reduced volumetric cost of Block 1 consumption with limited exposure to increases in Blocks 2-4.

Witness Thill testifies that witness Junis identifies the pilot as being limited, but that is the very nature of a pilot. Junis Exhibit 7 shows total measured monthly bills for Aqua NC Water customers during the test year of 745,138. Thill Revised Exhibit 3 shows total test-year bills for those same Aqua NC customers included in the pilot as 76,152, excluding Fairways customers at The Cape. Whereas any pilot is inherently limited, Aqua NC's proposed pilot covers 10% of Aqua NC Water and 100% of Fairways Water residential customers. This level of coverage, particularly in areas of high consumption, should provide worthwhile data on the effectiveness of the proposed design and valuable customer behavior information that can be used to refine the rate structure and apply it to the larger customer population in future cases.

Witness Thill next addresses the Public Staff's third concern – that the pilot reverts to ratemaking with system-specific rates as opposed to uniform rates. According to witness Thill, this objection by the Public Staff would preclude any pilot program. Each of the seven largest cities in North Carolina uses an inclining block structure, and each is vastly different from the others. In applying a conservation rate to realize a static revenue requirement, higher consumption customers will subsidize the cost of lower consumption users. The average revenue requirement calculated to be realized from the entire population of "piloted" communities is calculated to be the same as would be realized across non-pilot communities. Witness Thill testifies that there is no singular "correct" model and Aqua NC thinks that both customers and the utility are better served by testing this concept on a representative few systems before exposing the entire customer base to a drastic change in rate structure with many unknown consequences.

Witness Thill addresses the Public Staff's fourth concern that the pilot ignores the overlapping purpose of House Bill 529 and Commission Rules R7-40 and R10-27 as follows. Contrary to this statement, Aqua NC's pilot program embraces House Bill 529 by making a condition of its pilot that a revenue reconciliation process also be implemented. A program that intentionally reduces consumption but does not factor that reduction (repression) into ratemaking assigns the full cost of conservation to the utility and directly compromises its opportunity to achieve the Commission authorized return. On the other hand, a program that assigns a repression element, an unknowable variable, without a reconciliation feature adds significant risk to both customers and the utility and is in the interest of neither.

The Public Staff's fifth concern is that potential benefit(s) of the program may be outweighed by the valuable personnel resources of the Company, Public Staff, and Commission required to implement and track the pilot. Witness Thill stated that, again, this objection by the Public Staff would seem to preclude any pilot program. He noted that witness Junis stated that:

The potential benefits are subjective based on the limited supporting documentation referred to above. The Company appears to describe

operations in crises due to high volume users on one hand, yet on the other hand, fails to meet its burden to describe how the pilot may result in relief to these systems or an avoidance of capital expenditures.

According to witness Thill, this argument seems to require definitive quantification of savings that might be had from a pilot that has never been implemented, essentially requiring past proof of future benefits. Aqua NC approached its pilot assuming that certain “truths” already exist regarding the benefits that reduced consumption might create, as well as the impact that a properly constructed block structure might have on conservation. Those “truths” would seem to be echoed in the following Comments of the Public Staff filed on May 22, 2019, in Docket No. W-100, Sub 59:

Decreased usage is a decrease in demand. In addition to the revenue and short-term variable expense effects, decreases in demand can delay or even eliminate the need to undertake capital-intensive projects such as the expansion of plant capacity. For the larger privately-owned public utilities, this can add up to thousands or possibly millions of dollars of savings that would otherwise be booked. (Pages 2-3)

. . . decreased usage results in decreased pumping which, in turn, increases the longevity and reliability of wells. (Page 3)

Due to higher prices for greater consumption, increasing block rates also send a strong conservation signal to customers. During times when a system’s capacity may be limited, such as during periods of increased irrigation, the demand increase is captured by a higher cost for above average water usage. This increased cost may encourage customers to focus on conservation measures. (Page 8)

When the demand exceeds the well pumping supply and effective storage capacity, the customers can experience low pressure, degradation of water quality, and/or a complete outage. (Page 27)

Based on the foregoing review of rate structures, and based on its experience and expertise, the Public Staff is of the opinion that, to best balance the objectives of sufficient and stable revenue for the utility with appropriate signals to consumers that support and encourage efficiency and conservation, water and wastewater rates should be volumetric with one or more increasing blocks. (Page 31)

Witness Thill states that it is important to note that the Company’s conservation pilot is proposed in response to the Commission’s request of Docket No. W-100, Sub 59. Benefits of a block structure as opined by the Public Staff in the quoted passages include decreased capital costs, better access to water, reduced pressure concerns, and better quality. Each of these benefits inures to the customer. The utility will hopefully experience operational relief, which was a key component of Aqua NC’s system selection, but that is

still a benefit to the customer. The economic impact to the utility is actually a reduction of future capital investment and therefore a reduction of future earnings.

According to witness Thill, Aqua NC is supportive of the Commission's conservation initiative and appreciates its recognition that conservation brings with it challenges to the sufficiency and stability of the utility's revenue. The Company has attempted to design its pilot in a manner that encourages conservation without sacrificing its own authorized earnings. To that end, the Company has assumed price elasticity using information gathered from the 2009 report of the UNC School of Government Environmental Finance Center required by NCUC Docket No. W-218, Sub 274 and W-224, Sub 15:

... we assumed a price elasticity of -0.3, meaning that for every 10% increase in the total bill that the customer receives, the customer responds by decreasing their water consumption by 3%. This elasticity is based on the most recent and focused analysis on water price elasticity in North Carolina.

Witness Thill testifies that witness Junis objects to the use of that elasticity measure since it "is not specific to Aqua's customer base" even as Aqua NC's operations span 51 counties across all of North Carolina. Witness Junis' challenge would, again, essentially require past proof of future events. However, witness Junis then seems to soften his stance somewhat in stating:

While a price elasticity of -0.3 may be expected on average, the projective regression applied to the customer consumption data is in addition to the Company's Conservation Normalization Factor. The Company's proposed factor most certainly includes some degree of price elasticity impact as Aqua has increased its rates three times during the analysis period of three-year averages from October 1, 2008, to September 30, 2019, (updated to April 1, 2009, to March 31, 2020).

Witness Thill states that this statement conflates two independent measures. The Conservation Normalization Factor measures the reduced consumption experienced in the past, independent of the reason for that reduction. Regression is a research-based projection of the amount that future consumption is likely to decline directly as a consequence of a change in rates. Without providing justification as to how these concerns, individually or in combination, would yield such a result, witness Junis concludes:

The Company's combination of the price elasticity, Conservation Normalization Factor, and failure to take into account socio-economic demographics is likely to result in the overestimation of the expected consumption reduction.

Regardless of the validity of witness Junis' argument either in totality or of any component, witness Thill states that his conclusion of an overestimation of consumption

reduction could prove true. Such a statement should not be regarded as a softening of the Company's position but rather an acknowledgement that the modeled repression of -0.3 most certainly will not exactly be experienced. Aqua NC does not know if it will be more or less, but -0.3 is the best estimate the Company has today of an unknowable future event. As a result, actualized repression will result in the Company receiving more or less revenue than intended by the Commission – unless a reconciliation measure is adopted in concert with the pilot as discussed earlier.

Regarding the Public Staff's sixth concern that the pilot nearly guarantees service revenues, thus reducing risk, witness Thill states that, while Aqua NC has conditioned its conservation pilot program on the implementation of a related revenue reconciliation process, that reconciliation acts as a safeguard for both customers and the utility. Aqua NC's intent within this program design is to encourage conservation without sacrificing its own opportunity to earn its authorized earnings. Implementing a pilot rate design that fully satisfies the totality of the Public Staff's objections would result in a design encompassing 100% of Aqua NC's customer base, with no elasticity assumption and no revenue reconciliation.

In addition, the Public Staff asserts that singling out groups of customers would be discriminatory and potentially prejudicial if those customers' bills increased significantly under the inclining block rates in comparison to other customers charged uniform usage rates, or vice versa for low usage customers. According to witness Thill, this standard, similar to other objections raised, would preclude any effective pilot from implementation. All pilots, by definition, only apply to a subset of the customer base, while a pilot must necessarily create significant increases or decreases to be considered effective.

Witness Thill further testifies that any change to Aqua NC's rate structure will necessarily create "winners" and "losers", some intentionally and some by association. This objection is another argument in favor of the Company's revenue reconciliation proposal since it specifically ensures that any excess or deficit in revenue generated by the pilot is returned to or collected from only those customers that contributed to that excess or deficit.

Witness Thill testifies that the Company has proposed its pilot in response to the Commission's interest in water efficiency and conservation. The pilot covers a representative group of users in mostly high-volume, operationally challenged systems that have significant opportunity for benefit and where consumer behavior can best be evaluated in terms of the effectiveness of conservation price signals. The proposed revenue reconciliation process is an integral element of this pilot program providing a critical safeguard for both the customers and the Company. If the Commission determines that the revenue reconciliation process as proposed should not be approved, witness Thill stated that the Company would respectfully and regrettably withdraw its proposed conservation pilot.

### ***Summary of Aqua NC Witness Thill's Testimony in Response to Commission Questions***

In response to a question from Commissioner Duffley, witness Thill testifies that, if the Commission modified the pilot's revenue reconciliation process, he could not commit on behalf of Aqua NC that the Company would proceed with the pilot.

Commissioner Brown-Bland asked witness Thill if the Commission capped the pilot program to the revenue requirement, would the Company be agreeable to that? Witness Thill responded in detail to the question and concluded by stating that the "...short answer is that I don't think the Company would agree to that." Tr. vol. 7, 61. Witness Thill also testifies that he could not speak for the Company in response to other hypothetical-type questions asked by Commissioner Brown-Bland related to the pilot program.

### ***Summary of Aqua NC Witness Thill's Rebuttal Testimony on Redirect***

In response to questions from Aqua NC's counsel on rebuttal redirect examination, witness Thill testifies that the Public Staff had an opportunity to file a rate design based upon inclining block rates but did not do so in this case. Instead, the Public Staff proposed to increase the volumetric elements for both water and wastewater service. Witness Thill states that any increase in the volumetric element of rates increases the Company's risk of recovering its allowed return and rates. A CAM would, to some degree, alleviate that concern.

### ***Commission Conclusions Regarding the Conservation Pilot Program***

Based upon a careful consideration of the entire record in this proceeding, the Commission concludes that it is reasonable, appropriate, and in the public interest to approve implementation of the Conservation Pilot Program by Aqua NC for residential customers in four of the five service areas proposed by the Company: Arbor Run; Bayleaf Master System; Merion; and Pebble Bay. For the reasons set forth below, the Commission declines to accept Aqua NC's proposal to implement a Conservation Pilot Program for The Cape service area.

By Order entered in Docket No. W-100, Sub 59 on March 20, 2019, the Commission initiated an Investigation of Rate Design for Major Water Utilities, requesting, in pertinent part, "a discussion of rate design proposals that may better achieve revenue sufficiency and stability while also sending appropriate efficiency and conservation signals to consumers." Aqua NC's proposed conservation pilot program is a direct response to the Commission's goals as stated in the generic docket. The proposed pilot program has been rigorously and comprehensively reviewed by the Public Staff and the Commission and, notwithstanding the position taken in opposition thereto by the Public Staff, the Commission concludes that the use of a pilot program in a portion of the Aqua NC Water Rate Division will better allow Aqua NC, the Public Staff, and the Commission to analyze the results the pilot will have on a smaller scale before designing and applying any one or more final rate designs to the larger population of the Company's

customers. Further, the Commission determines that exploration of rate design structures through pilot programs is appropriate because real-world data is necessary to resolve the complexities involved in predicting customer responses to rate design changes and in understanding the impact on a utility's finances.

During the expert witness hearing, Public Staff witness Junis testified that instead of the pilot program proposed by Aqua NC, the Public Staff would prefer that statewide inclining block rates, with a CAM, be considered in the next rate case. He later modified his statement regarding statewide inclining block rates by saying that "I think we would consider slightly modified inclining block rates for the different rate entities." Witness Junis also noted that any rate design implemented for Aqua NC would likely be "tweaked" as actual experience is obtained. Witness Junis stated that Aqua NC should be required to maintain consumption billing data in 1,000 gallons blocks for the Public Staff and Aqua NC to properly evaluate and structure an inclining block rate structure. Witness Junis also pointed out the disadvantages of an inclining block rate structure stating that such a rate structure can penalize large families which have a higher level of non-discretionary usage and that depending on the design of the blocks, they may pay significantly more. He noted there can also be situations where unrecognized water leaks develop which can result in a "giant" bill. Although not presented in his prefiled testimony, witness Junis' testimony concerning the implementation of statewide inclining block rates for Aqua NC is consistent with the comments filed by the Public Staff in Docket No. W-100, Sub 59.

The Commission agrees with Aqua NC witness Thill that pilot programs are by their very nature limited; that the pilot is rightfully intended to affect Aqua NC's discretionary water users with the greatest capacity for conservation that are more prevalent in the Company's high-usage water systems; that Aqua NC's proposed pilot covers ten percent of Aqua NC Water; that this level of coverage, particularly in areas of high consumption, can reasonably be expected to provide useful data and valuable customer behavior information which can be used to refine the rate structure and apply it to the Company's larger customer population in future cases; that the proposed revenue reconciliation process acts as a safeguard both for Aqua NC and its customers; and that the allegations of discrimination and prejudice raised by the Public Staff would preclude implementation of any pilot programs, since pilots, by definition, generally apply to a subset of the customer base.

Although the Commission declines to accept the implementation of the Company's proposed pilot program in the Fairways Water Rate Division, the Commission concludes that the Company's proposed pilot program for a portion of the Aqua NC Water Rate Division will better allow Aqua NC to analyze the results this pilot will have on a smaller scale before designing and applying any one or more final rate designs to the larger population of the Company's customers. The Commission concludes this analysis on a smaller scale is particularly important because there are many variabilities in an inclining block rate structure, from the number and size of the blocks, to the various step points, and the magnitude of the unit price difference between blocks. Further, the Commission concludes that an analysis of the impact these variables have on the effectiveness of the

rate structure in promoting water efficiency and conservation should include both an evaluation of the municipal and town water and sewer systems operating in the State that currently utilize inclining block rate structures as well as actual customer reaction and changes in consumption observed through the implementation of Aqua NC's pilot program.

Moreover, there are not presently any tiered rate structures approved for the North Carolina water and sewer utilities regulated by the Commission. Implementation of tiered inclining block rate structures would be a significant change in rate design for the regulated water and sewer utilities. It is reasonable and appropriate to implement a pilot program in a portion of Aqua NC's Water Rate Division to allow Aqua NC, the Public Staff, and the Commission to analyze the results on a smaller scale before designing and applying any one or more final rate designs to the larger population of Aqua NC. The application of a pilot program in a portion of Aqua NC's Water Rate Division should provide the Company, the Public Staff, and the Commission an opportunity to explore the effects of a tiered inclining block rate structure on a variety of customer types in several geographical areas in the State; to make comparisons of actual pilot program results to data pertaining to nonregulated entities (towns, municipalities, etc.) that utilize inclining block rates; to evaluate the feasibility of utilizing inclining block rates rather than Aqua NC's current single-tier rate design structure compared to the resulting benefits in water efficiency and conservation; and to review Aqua NC's reports of the monthly consumption data of accounts by blocks of 1,000 gallons to ensure that all required information is captured prior to possible full or permanent implementation of inclining block rates in some or all of Aqua NC's service areas.

Furthermore, the application of a pilot program in a portion of Aqua NC's Water Rate Division should provide the Company, the Public Staff, and the Commission the necessary data to compare whether other rate design proposals, such as a rate design consisting of 30%/70% base to usage charge with a CAM, may achieve similar water conservation objectives while being simpler to administer.

The Commission observes that there are approximately 6,000 residential customers on the Bayleaf Master water system and there are fewer than 800 residential sewer customers. The Bayleaf Master water system customer base is not a uniform group of high-consumption households but rather includes some diversity with respect to water usage. Bayleaf is a water system with a history of marginally adequate well water capacity during extended periods of high demand that typically occur during hot, dry weather which historically has resulted in heavy lawn and shrub irrigation. Bayleaf water customer Becky Daniel testified at both the public hearing held during Aqua NC's last rate case (Sub 497) and the present proceeding. Witness Daniel testified in support of Aqua NC's proposed pilot program for the Bayleaf Master water system.

Although there is opportunity for both conservation and operational relief with implementation of a pilot program in The Cape service area, the Commission concludes that it is not appropriate to implement such a program in this proceeding because the metered water rates for the Fairways Water Rate Division are significantly lower in

comparison to Aqua NC's Uniform Water and Brookwood Water Rate Divisions and thus will not provide meaningful results to extrapolate across the Company's full customer base in future rate design planning. Further, of the approximately 4,251 customers to be included in The Cape pilot program, the majority of the customers, 2,876 customers, are both water and sewer customers and 1,375 are water-only customers. Consequently, the Commission concludes that the approval of metered sewer rates for The Cape service area will send a conservation signal to high volume water users through the metered sewer charge. Implementing both metered sewer rates and an increasing block structure would complicate the evaluation analysis of the pilot program and the revenue reconciliation process.

The Commission acknowledges that there are necessarily winners and losers in any change to Aqua NC's pricing structure. The lower volume water users will experience an overall reduction in their average monthly bills and the high-volume users will experience an overall increase in their average bills if they do not change their usage patterns. This is consistent with the concept that, although most of the utility's expenses are fixed, it is the peak demand requirement of a system's high-volume users that fosters the greatest incremental cost. The focus of Aqua NC's pilot program is to provide rate relief for customers whose usage falls within the lower blocks and inducing conservation in those whose usage extends to the higher block levels.

The Commission determines that revenue sufficiency and stability is addressed in two ways in the pilot program. First, the consumption estimates Aqua NC used to determine pricing bands in the pilot areas have been reduced to reflect demonstrated trends in price elasticity. Price elasticity measures the responsiveness of consumption to price changes. The Company incorporated an elasticity of -0.3 in its consumption projections. That is, a 10% increase in consumer cost is assumed to drive a 3% decline in consumption. The Company's second measure to ensure revenue sufficiency and stability is the implementation of a revenue reconciliation process specific to the pilot areas. This proposed revenue reconciliation is specific to, and integral to, Aqua NC's willingness to implement the pilot program.<sup>33</sup> Considering the many variables that influence water demand and that this pilot program intentionally means to increase the variability of that demand, as a general matter of fairness there must be a settlement process to ensure that neither the pilot customer group (as a whole) nor the Company is unduly harmed or enriched by this program. The intent of the revenue reconciliation is that the Company should receive its full authorized revenue requirement, no more and no less.

The Commission concludes that for purposes of implementing a pilot program in a portion of Aqua NC's Water Rate Division, a revenue reconciliation process applicable only to the pilot group is in the public interest. The Commission acknowledges that

---

<sup>33</sup> Aqua NC witness Thill testified that if a consumption decline is not factored into the rate design process, any success of the program as proven by reduced consumption will necessarily be absorbed by the utility in the form of insufficient revenue and reduced rate of return on common equity. According to the Company, incorporating a consumption decline, or repression, in the calculation ensures that the utility is not working against its own interest in further funding the public policy initiative of conservation.

N.C.G.S. § 62-133.12A allows the Commission to “adopt, implement, modify, or eliminate a rate adjustment mechanism for one or more of the company’s rate schedules to track and true-up variations in average per customer usage from levels approved in the general rate case proceeding” upon a finding that such mechanism is appropriate to track and true-up variations in average per customer usage and is in the public interest. The Commission concludes that it is reasonable and appropriate that a revenue reconciliation process as set forth by the Company be integral to the pilot program; however, such revenue reconciliation process in this docket for this specific purpose is not intended to establish the process by which any future revenue reconciliation for Aqua NC or other regulated utilities related to actual consumption variances from Commission-approved levels in general rate case proceedings as allowed by N.C.G.S. § 62-133.12A will be calculated.

In regard to the Public Staff’s opposition to Aqua NC’s proposed pilot programs, the Commission concludes that during the course of its investigation in this proceeding, the Public Staff had adequate time to prepare and propose alternatives to Aqua NC’s proposed pilot program, but, instead, simply proposed a more volumetric water and sewer rate design without the benefit of a CAM or a revenue reconciliation process to afford a degree of protection to the Company’s earnings and authorized revenue stream.

Accordingly, for the reasons set forth above, the Commission concludes that the Company’s proposed Conservation Pilot Program in a portion of the Aqua NC Rate Division and the integral revenue reconciliation procedure should be approved and adopted for purposes of setting water rates in this proceeding. For the reasons set forth herein, the Commission declines to adopt the Company’s proposed pilot program in The Cape service area, which is part of the Fairways Water Rate Division. Further, the Commission finds and concludes that Aqua NC should implement the pilot program for a period of time that allows the Company to accumulate sufficient information to analyze the results of the pilot and to apply such results to designing proposed future rate structures. Consequently, the Commission determines that Aqua NC’s pilot program should include at least two summer irrigation seasons but should conclude within three years of the implementation date or the effective date of new base rates in a general rate case application, whichever is earlier.

With respect to reporting requirements related to the pilot program, the Commission concludes that Aqua NC and the Public Staff should work together collaboratively (1) to design a quarterly report format to file with Commission to inform the Commission regarding the ongoing impact of the pilot program (i.e., the change in consumption, customers, and revenues compared to historical levels) and any other matters pertinent to the evaluation or continued implementation of the pilot program and (2) to file a semiannual report to inform the Commission regarding the detailed calculation of the revenue reconciliation process indicating the amount to date of any surcharge or surcredit to customers. In regard to whether a carrying cost should be applied to the annual surcharge or sur-credit to customers, that matter will be determined by further order of the Commission in conjunction with the parties filing of the first proposed annual revenue reconciliation adjustment. Further, the quarterly report format should, at a

minimum, include monthly historical and current consumption by blocks of 1,000 gallons and the corresponding number of bills and revenues for each customer group (i.e., water only customer, water and metered sewer customer, water and flat-rate sewer customer, and water and sewer with separate irrigation meter, etc.) and should be filed within 30 days of the end of each calendar quarter. Such quarterly report may be revised as needed in future filings as determined by Aqua NC, the Public Staff, and the Commission. The semiannual reconciliation report should be filed within 30 days of the end of the reporting period. In addition, the annual revenue reconciliation request and the supporting calculation and data for an annual adjustment should be filed with the Commission at least 45 days prior to the annual adjustment effective date.

Finally, for purposes of the pilot, the Commission concludes that the approximately 800 sewer customers on the Bayleaf Master System should remain a monthly flat rate sewer customers for the implementation of the pilot program due to the Company's proposed reconciliation process being a required integral component of any Commission-approved pilot program. The Commission determines that the complications the conversion from a monthly flat rate sewer to metered sewer rates will create for the small number of sewer customers on the Bayleaf Master System should be avoided in order to allow Aqua NC, the Public Staff, and the Commission to obtain a more reasonably accurate analysis of the approved pilot program.

## **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 45–62**

### **Utility Plant in Service and Plant Unitization**

The evidence supporting these findings of fact is contained in the joint testimony of Public Staff witnesses Henry and Junis, in the rebuttal testimony of Company witness Thill, and the record in this proceeding.

#### ***Summary of Public Staff Testimony***

Public Staff witnesses Henry and Junis testify that they conducted an investigation of the Company's plant additions to rate base by reviewing Aqua NC's utility plant in service records and supporting documentation. They state that the Public Staff typically confines its investigation to the period from the update period in the prior rate case through the update period in the current rate case. However, in order to investigate the Company's novel request for aggregated deferral accounting treatment made in its application in the present docket, witnesses Henry and Junis testify they investigated the Company's plant additions dating back to 2015. Tr. vol. 4, 260-61.

Witnesses Henry and Junis describe the term "plant additions," which are capital assets, typically including additions, improvements, and replacements, booked to plant accounts with associate depreciation rates. They note that a single project can consist of more than one addition to the general ledger plant accounts. They also include in their prefiled testimony Company witness Thill's definitions of various terminology the Company uses in its asset management system. *Id.* at 261. According to witness Thill,

“completion date” means “a general indication that an asset is ‘useful’ but it is strictly informational as no system action derives from this data. Aqua NC personnel may use this field as a tickler to indicate substantial completion and to alert accounting personnel to monitor final bill processing and subsequent unitization.” The term “in-service date” means “the date the asset is placed in-service and being ‘used’ for the benefit of customers. This date drives the retirement calendar (except for ‘blankets’ . . .) and terminates any AFUDC calculation.” *Id.* at 261-62 Finally, witness Thill defines “posting or unitization date” as follows:

This is when the asset is removed from CWIP and added to UPIS, and begins depreciating. Unitization occurs after determination that an asset is both complete (useful) and in-service (used). In that Aqua has been directed by the Public Staff that projects should close only a single time, unitization is also subject to timing of vendor invoicing – that is, unitization occurs only after all vendor invoices have been processed which may be months after either (or both of) the completion or in-service dates.

*Id.* at 262.

Witness Thill subsequently clarifies for witnesses Henry and Junis that the in-service date “drives auto-retirements (where applicable) and stops AFUDC” and that unitization “starts depreciation; must be complete and in-service.” *Id.* at 261-62. Witnesses Henry and Junis contend that ideally, the in-service date will occur in the same month as the unitization date. *Id.*

Witnesses Henry and Junis note in their testimony that the issue of the Company’s UPIS practices and procedures was addressed in the Docket No. W-218, Sub 274 rate case, and that the Commission had accepted the provisions of the Sub 274 Joint Stipulation and ordered the Company, among other things, to “adopt a consistent, accurate, and complete accounting system for its detailed plant records that maintains its plant records in compliance with the Uniform System of Accounts,” and to “review its procedures for determining when projects are completed and should be closed and file its recommended changes to its procedures within 90 days . . . .” *Id.* at 263 Witnesses Henry and Junis further note that, in its First Status Report filed in response to the Commission’s Sub 274 Order, the Company stated that the Company’s Accounting Department allowed 30 to 60 days after the in-service date for projects to be booked. *Id.* at 263-64. According to witnesses Henry and Junis, this approach would be acceptable to the Public Staff if utilized consistently and for an overwhelming majority of its CWIP projects. Relying on the Company’s description of its accounting practice, the Public Staff states it did not review the in-service and unitization dates for projects included in rate base in the Company’s Sub 497 rate case in great enough detail to recognize a number of instances in which more than 30 to 60 days elapsed between when a project was placed in-service and when it was unitized. *Id.* at 266. These projects, totaling approximately \$4.7 million, were identified by the Public Staff in its investigation of the Company’s novel request for aggregate deferral accounting treatment. *Id.* at 260-61. Witnesses Henry and Junis state that while some projects were booked just over 60 days

from the in-service date, due to the timing of those events, the in-service date and the unitization date occurred in different years. The Public Staff does not recommend an adjustment related to the approximately \$4.7 million in projects it identified for which unitization occurred more than 60 days after the in-service date. However, the Public Staff requests that the Commission take the matter into consideration in its decision. *Id.* at 266.

While the Public Staff identifies a number of projects that were not unitized within 60 days of the in-service date, witnesses Junis and Henry note in their testimony that they also identified instances in which the Company unitized plant additions within the same month that they were placed in-service. Witnesses Henry and Junis point out that this was inconsistent with explanations provided by the Company as recently as June 2019 that it took 30 to 60 days to complete the accounting process to book capital projects. *Id.* at 267. Witness Junis further notes on cross-examination that unitizing assets more quickly than in 30 to 60 days benefitted the Company in some instances, such as where the Company could recover the costs of a project in a WSIC/SSIC proceeding. *Id.* at 328. As an example, witnesses Henry and Junis state that the Company had not updated its November 1, 2019 WSIC/SSIC application<sup>34</sup> to account for (\$16,354) in plant adjustments and therefore, has been recovering the incremental depreciation expense and capital costs associated with that amount through mechanism surcharges since January 1, 2020. Witnesses Henry and Junis note that they would recommend that this excess recovery between January 1, 2020, and the date of the rate case order be refunded as part of the annual review and EMF at the end of 2020. *Id.* at 268.

Witnesses Junis and Henry state that based on their investigation that many of the unitizations they identified in the first and third quarters of each year occurred more than 60 days after the in-service date. They note that the first and third quarters are also the second halves of the WSIC/SSIC semiannual adjustment periods, or during the post-test year period of rate cases. Witnesses Henry and Junis assert that the delay in the start of depreciation that occurred as a result of the Company's UPIS accounting practices resulted in the reduction of accumulated depreciation and additional return from a corresponding increase in rate base. The witnesses maintain that this delay in the start of depreciation along with the Company's unitization of plant costs close to the point when rate recovery occurs benefits the Company financially. *Id.* at 267.

Witness Henry explains that Aqua NC "uses a half year convention, so no matter what point in time that that asset is booked, the Company captures a half year of depreciation for that particular asset in the year in which it was placed in service." *Id.* at 326. Witnesses Henry and Junis explain that delays between the in-service date and the unitization of an asset have an especially significant impact when the in-service date occurs in one year and the unitization date occurs in a subsequent year. Witness Henry further explains regarding this scenario, "you are missing out on a full year of accumulated depreciation if you unitize in the latter year versus the . . . former year when [the asset] went into service." *Id.* at 324. On examination by Commissioner Duffley, witness Junis asserts that unitization in the year after the in-service date functions as a deferral that

---

<sup>34</sup> See Docket No. W-218, Sub 497A.

essentially shifts the depreciation life of the asset a year into the future. As a result, witness Junis contends that the Company avoids losing rate recovery for a year's worth of depreciation expense due to lag and the reduction to rate base from the associated accumulated depreciation. *Id.* at 350-51.

With respect to the present rate case, witnesses Henry and Junis recommend several in-service date and cost adjustments to UPIS and accumulated depreciation. As part of the Public Staff's review of the Company's Application for Approval of Water and Sewer System Improvement Charge Rate Adjustments Pursuant to N.C.G.S. § 62-133.12 filed on May 1, 2019, in Docket No. W-218, Sub 497A, the Public Staff recommended removal of two Aqua NC Water filtration projects totaling \$648,434 that were not in service and used and useful during the applicable WSIC/SSIC period. The Public Staff also recommended that the Commission approve adjustments related to 13 projects totaling approximately \$1.7 million that were placed in service in the third and fourth quarters of 2018 but were not unitized until the first quarter of 2019. These adjustments totaled \$50,202, or an additional nine months' worth of accumulated depreciation. Witnesses Henry and Junis recommend that these regulatory accounting adjustments, which were not accounted for in the Company's rate case application, be approved and that Aqua NC be required to include them in all future rate cases until the assets are retired. *Id.* at 269-70.

The second set of adjustments for which witnesses Henry and Junis recommend in-service date changes and cost adjustments to UPIS and accumulated depreciation related to capital expenditures unitized by the Company in the post-test year period in the present rate case of October 2019 through March 2020. Public Staff witnesses Henry and Junis adjusted the unitization dates for 44 plant additions totaling approximately \$1.4 million. The adjustments changed the unitization date to the in-service date specified by Aqua NC unless there was information showing that the asset was not actually placed in service on that date, and all of the adjustments resulted in the accumulation of additional depreciation in the present or future rate cases. Witness Junis explains on cross-examination that for assets that were placed in service in 2019, but unitization and the beginning of depreciation did not occur until 2020, a year of accumulated depreciation is lost. *Id.* at 331. Witness Henry testifies that, for ratemaking purposes, the Public Staff included a full year of depreciation expense and of accumulated depreciation in the present rate case to establish a representative level of depreciation and accumulated depreciation that the Company would incur going forward. Witness Henry contends that adjustments would need to be made by the Public Staff in the Company's next general rate case to correct the Company's books for the errors in unitization dates identified by the Public Staff in this proceeding. *Id.* at 332. In addition to the adjustments to in-service dates, witnesses Henry and Junis recommend four adjustments to reduce plant for excessive accrual of AFUDC. *Id.* at 271, 330.

In addition to their recommended adjustments, witnesses Henry and Junis summarize their position regarding the issue of unitization as follows, including a recommendation for the Commission to address the issue:

The Public Staff believes that unitization should occur within 30 to 60 days of the in-service date, and that depreciation should always begin as of the in-service date. The Public Staff understands there may be exceptions to when the project unitization occurs, but depreciation should always begin when an asset is placed in service, without exception. The Public Staff strongly believes the procedure should be that depreciation begins and accrual of allowance for funds used during construction, AFUDC, ends on the in-service date. To address this issue, the Public Staff recommends that the Commission order the Company to review its procedures for determining when projects are completed, in service, and booked, and file the Company's findings on its internal practices, and any plans to change the procedures, within 90 days of the Commission's final order in this proceeding. Tr. vol. 4, 308–9.

On cross-examination, witness Junis revises this recommendation based on new information that the Company's PowerPlan asset management system includes a function that enables the Company to designate assets as "completed but not classified."<sup>35</sup> Witness Junis states that this newly identified function stops the accrual of AFUDC and begins depreciation at a general depreciation rate of the related plant. Witness Junis explains that, after an asset is booked at the general depreciation rate, costs in sub-accounts associated with the various components of the asset would "continue to be accounted for during a designated period of time or until it is believed that all the costs have been captured." He further explains that at the end of this period, the costs that have been collected and the accumulated depreciation that has accrued since the asset's in-service date is booked to the appropriate sub-accounts. *Id.* at 319-21. Witness Junis states that it is his understanding that this function is utilized by various other Commission-regulated utilities in the state including Duke Energy Carolinas, LLC, Duke Energy Progress, LLC, and Piedmont Natural Gas Company, Inc. Witness Junis recommends that the Commission order Aqua NC to also utilize this function. *Id.*

Witness Henry admits on cross-examination that the practice utilized by Aqua NC has been to begin depreciation as of the unitization date. He also agrees that it is a true and "fair statement" that the only time the situation arises where the Public Staff would contest the unitization dates and the accrual of depreciation is when the plant was placed in service before the end of one calendar year, but unitization was not completed until sometime after the first day of the subsequent calendar year. *Id.* at 328.

In response to a question from Commissioner Clodfelter regarding Aqua NC's AFUDC calculations, witness Henry states that the Public Staff, with the exception of adjustments to in-service dates for certain "long-lived" projects which the Public Staff

---

<sup>35</sup> Account 106, Completed Construction Not Classified - At the end of the year or such other date as a balance sheet may be required by the Commission, this account shall include the total of the balances of construction projects for service company property which has been completed and placed in service but which work orders have not been classified for transfer to the detailed utility plant accounts. Uniform System of Accounts for Class A Water Utilities (1996).

made in this case, the Public Staff is generally satisfied with Aqua NC's methodology for calculating and accruing AFUDC. Tr. vol. 4, 342–43.

### ***Summary of Company Rebuttal Testimony***

Aqua NC witness Thill testifies on rebuttal that Aqua NC disagrees with the Public Staff's conclusion that the Company's UPIS practices are inconsistent and can result in windfalls to the Company to the detriment of ratepayers. Witness Thill testifies that Aqua NC has systems and processes in place to track, document, and verify its UPIS. Witness Thill states that these systems and processes consist of annual reviews of internal controls performed because Aqua NC's parent company, Essential Utilities, is subject to the Sarbanes-Oxley process, Aqua NC's finance department's quarterly reviews of capital project reports and meetings with operations and engineering staff regarding the status of CWIP, and Essential Utilities' internal audit group's three-year rotational review of state operations. He acknowledges that "real work events" such as vacations, sick time, field staff experience levels, and communication between those field staff and accounting staff impacts the Company's UPIS processes. Witness Thill discusses some of the factors that complicate the Company's UPIS procedures, including the large volume of projects the Company processes each year, and the need to close projects for individual systems, but he contends that, overall, the Company has, in its UPIS processes, balanced the interests of its various stakeholders, including shareholders, employees, bondholders, and customers. Tr. vol. 6, 41-45.

Witness Thill maintains that the Company's use of the mid-year depreciation convention minimizes the impact of the unitization date during the same calendar year. He acknowledges, however, that when an asset "crosses years" depreciation is lost. For example, when an asset that was placed in service in 2019 is unitized in 2020, one year's worth of depreciation is lost. *Id.* at 44-45.

Regarding the Public Staff's concerns about delays in the unitization of certain projects, witness Thill asserts that factors outside the control of the Company such as vendors and regulatory agencies can contribute to such delays. Responding specifically to Public Staff witnesses Henry and Junis' Exhibit 1 to their testimony showing discrepancies between in-service dates that occurred in 2017 and unitization dates that occurred in 2018 for a number of Aqua NC plant additions, witness Thill notes that final invoice payments for some projects having in-service dates in October 2017 were not paid until December of that year and stated that projects "**cannot** close until all costs are in." *Id.* at 47. Witness Thill maintains that "information [regarding final payments] is often not known for some window of time after payments are made due to the necessary coordination between internal departments and external vendors . . . ." *Id.* at 47-48.

Regarding Public Staff witnesses Henry and Junis' contention that "the Company benefits financially from unitizing plant costs as close to rate recovery as possible," witness Thill contends that a more accurate statement is that "the Company is harmed less by lag when it unitizes plant costs as close to rate recovery as possible." He acknowledges that, as identified by the Public Staff, "unitizations occur at a higher

frequency in months that cut off the two semiannual WSIC/SSIC filing periods,” and suggests that this should not be considered “surprising or alarming” because part of the purpose of the WSIC/SSIC mechanism is to lessen the effects of regulatory lag. *Id.* at 48.

Witness Thill acknowledges that the Company had not updated its November 1, 2019 WSIC/SSIC application to account for (\$16,354) in plant adjustments as noted by Public Staff witnesses Henry and Junis. However, witness Thill asserts that the Company included and that the Public Staff was aware of all but \$1,829 of the adjustments at issue. Witness Thill further asserts that the failure to include that amount was the result of an inadvertent mistake and not the product of a variance of the Company’s accounting procedures or evidence that a review of those procedures is necessary as the Public Staff suggested. *Id.* at 50. Witness Thill testifies that Aqua NC did not challenge the Public Staff’s adjustments to the in-service dates for 13 projects totaling approximately \$1.7 million that were placed in service in the third and fourth quarters of 2018 but were not unitized until the first quarter of 2019. These adjustments are shown in Exhibit 4 to the joint testimony of witnesses Henry and Junis. *Id.* at 52-53.

Regarding the Public Staff’s recommended adjustments to the unitization dates for 44 plant additions related to capital expenditures unitized by the Company in the post-test year period, witness Thill maintains that the Public Staff’s analysis “does not take into account the reality of the every-day operations of the utility.” Witness Thill states that in any given month, the Company is closing as much as \$13 million in rate base. Excluding the auto-unitizing “blanket”<sup>36</sup> projects, the Company manually unitized an average of 133 line-items per month in 2015-2020, and as many as 749 in a single month. Witness Thill explains that each of these line-items can be as simple as a single invoice or as complex as hundreds of lines of activity including vendor payments, internal payroll capitalizations, inventory assignments, overhead allocations and AFUDC assessments. Witness Thill notes that the Public Staff’s analysis used to support its recommendation “moved the unitization date in advance of the final vendor payment for ten of the 44 line-items, a practice unavailable to the Company as Staff has previously required that projects close a single time once all costs are final.” *Id.* at 54. Witness Thill contends that the projects for which the Public Staff adjusted the unitization dates made up a small fraction of the asset additions recorded in the first quarter of 2020 and that, in adjusting the unitization dates, the Public Staff disregarded its “past policy of a 30-60 day closing period” and failed to take a “holistic” view of the Company’s unitization practices.

Witness Thill states that projects are a compilation of the efforts of specialists: engineers, operators, and compliance professionals. He further states that the Company

---

<sup>36</sup> “Blanket” funding projects represent a specific category of asset additions with particular characteristics within the Company’s PowerPlan asset subledger. These projects are typically routine replacements, often emergency services or similar expenditures that require no engineering or long-term coordination of resources. These assets are not assigned (and Aqua NC personnel have no ability to assign) completion or in-service dates as they are immediately unitized and placed in-service in the month the expenditure is incurred. This is a standard feature of the PowerPlan asset subledger, a software program designed for the utility industry. Because these purchases unitize individually each month for each asset class and each system, Aqua NC’s asset listing is overwhelmingly comprised of blanket purchases.

does not employ an overlay of professional project managers but rather relies on the individual specialists to successfully execute within their silos of expertise, as well as in concert with each other. Witness Thill explains that the unitization process is coordinated by the Company's property accountant. He describes that individual as a highly skilled and experienced accountant, and though neither a project manager nor a field expert, he states that her role has elements of each discipline. Witness Thill contends that it is particularly the project management element that instills complication and real-world challenges in the unitization process as she coordinates the administrative "punch list" of open items across the various disciplines, integrated with the accounting requirements to ensure that vendor payments occur only when properly approved and substantiated.

According to witness Thill, the North Carolina requirement for system level assignment of assets is unique. He states that it was his understanding that no other state in which Essential Utilities operates requires assets within the same consolidated rate division to be accounted for at the individual water system level. Witness Thill provides perspective to the diffuse nature of Aqua NC's operations and resultant accounting challenges by stating that there are 735 water systems and 64 sewer systems in Aqua NC. He notes that these North Carolina systems comprise nearly 50% of the systems in all of Essential Utilities America but serve less than 10% of all its customers. Witness Thill contends that the system-level of detail takes away one of the benefits of consolidation and exacerbates the added layer of work in tracking the thousands of projects Aqua NC's employees work on every year.

Witness Thill states that the Company has adapted to the requirement to maintain system-level asset information. However, he notes that real work events impact the process. Employee vacations and sick time, vendor changes, delays, and varying levels of field staff experience are just a few examples of factors that impact the process. He also notes that, building on earlier discussion regarding project management, communication between the field staff and accounting staff is key here. He explains that in maintaining system-level asset information, due to the way in which individual projects are closed, that communication also impacts the timing of closing projects.

Witness Thill testifies that the Public Staff's concern is that the Company allegedly intentionally unitizes assets inconsistently. He notes that according to the Public Staff, the unitization occurs too quickly in some cases, and not soon enough in others. He agrees that when an asset unitization is delayed, even where necessary or unavoidable, it can end up in the wrong year. He states that the Public Staff's concern follows that this impacts the starting period for depreciation and that can have an impact on rate base and therefore rates.

Witness Thill concedes the project-specific reductions to plant recommended by the Public Staff for excessive accrual of AFUDC related to the "Bridgepoint #8 Instl AquaGuard" and the "Instl AquaGuard Coachmans Trl #3." Witness Thill disagrees with witnesses Henry and Junis' recommendation that the entire AFUDC amount of \$12,526.25 be disallowed for "Field Tablets – 2019." In support of his position he states that the Public Staff's determination that the procurement of the field tablets was not

construction in progress “ignores the very nature of AFUDC, which is to recognize the capital cost of financing such a purchase.” Witness Thill also disagrees with witnesses Henry and Junis’ recommendation that only the portion of the total cost of the “RC New Generator Beachwood 02-196” incurred in 2018 in the amount of \$10,043.95 be included in plant. In support of his position, witness Thill notes that approximately \$20,000 was spent on the project in 2011 and 2012, and that the project did not restart until 2018, due to problems obtaining approval from a local official. He asserts that the usefulness of the asset should control whether the associated costs are recoverable, not the age of the costs. *Id.* at 58-59.

Witness Thill testifies that the scope of the issues related to UPIS raised by the Public Staff was relatively small, and notes that the impact of the Public Staff’s reassignment of unitization dates for \$1.6 million of plant additions “yielded a \$4,400 reduction in the revenue requirement in this case.” In his prefiled rebuttal testimony, in response to the witnesses Henry and Junis’ recommendation in their prefiled testimony that the Company review and file a report on its UPIS procedures, witness Thill testifies that, while the Company contends the processes and procedures currently in place related to UPIS are appropriate, he states “there is always room for improvement” and notes that Aqua NC was not opposed to reviewing its UPIS procedures but did not think a report was necessary. *Id.* at 60-61.

During the expert witness, witness Thill provides an addendum to the position stated in his prefiled rebuttal testimony. Specifically, witness Thill states as follows:

[I]f the Commission is so inclined and in lieu of reaching a decision on the merits based on the evidence of the record in this case, the Commission adopt the recommendation of the Public Staff witnesses Henry and Junis, quote “To order the Company to review its procedures for determining when projects are completed, in service, and booked, and file the Company’s findings of its internal practices [and] any plans to change the procedures within 90 days of the Commission’s Final Order in this proceeding,” closed quote.

This would allow Aqua and the Public Staff ample time to fully explore and address the UPIS issues prior to the Company’s next rate case and either come to a consensus settlement or engage in further litigation regarding these issues in that case.

*Id.* at 78-79.

During its case on rebuttal, Aqua NC requested and was granted, over the objections of the Public Staff, permission to conduct supplemental rebuttal examination of witness Thill on the topic of Aqua NC’s PowerPlan asset management system which was addressed by Public Staff witness Junis on cross examination. Witness Thill testifies on supplemental rebuttal examination that Aqua NC began using the PowerPlan asset management software in 2009 or 2010. Witness Thill testifies that the Company’s

decision to utilize PowerPlan was associated with its acquisition of a number of disparate systems using a variety of different accounting systems and the Commission's directives that the Company take steps to better manage its accounting processes. Witness Thill testifies that he did not think the UPIS issues raised by the Public Staff in the present rate case were the same issues that had prompted Aqua NC to begin using PowerPlan. *Id.* at 93-101.

When asked by Commissioner Clodfelter whether the version of PowerPlan used by Aqua NC contains the "completed but not yet categorized" module or functionality described by witness Junis on cross-examination which stops the accrual of AFUDC and begins depreciation at a general depreciation rate of the related plant, witness Thill testifies "it does." Witness Thill clarifies that it was his understanding that Aqua NC's version of PowerPlan had contained that module or functionality since Aqua NC began using the software and that it was his understanding that other Essential Utilities subsidiaries use the module or functionality. Finally, witness Thill states that, "generally speaking," witness Junis correctly described the manner in which the module or functionality operates with respect to costs that are captured after an asset has been placed in service. Tr. vol. 7, 36. However, witness Thill later notes that knowledgeable Aqua NC staff had concerns about the viability of the "completed but not yet categorized" functionality in Aqua North Carolina's particular case. *Id.* at 47-48.

In response to a question from Commissioner McKissick regarding when depreciation should begin on the in-service date or on the unitization date witness Thill first provides the Uniform System of Accounts description of CWIP which he states is, "Work orders shall be cleared from this account as soon as practicable after completion of the job." Witness Thill further states regarding the description, "And so it's not even a question in here about when it's in service. It talks about after completion. And it talks about practicable, because this is not as easy as it seems." *Id.* at 44.

Witness Thill describes what he thinks should be the "overriding beginning principle" governing UPIS practices and procedures as follows:

Things should move from [CWIP] into depreciable plant in service when practicable, not on a particular system date, but when practicable, that flows into the system that was developed at the time which was to say that it's going to take sometimes 30 to 60 days for us to do the complete unitization, to move this from CWIP into depreciable property. So sometimes it's going to take some time.

Witness Thill did not provide an explanation for the instances identified by witnesses Henry and Junis in which it took the Company in excess of 30 to 60 days to complete unitization. Witness Thill contends that the Company's ability to unitize some projects within the same month as the in-service date was not evidence that the Company always has the capability to do so. *Id.* at 46.

Returning to Commissioner McKissick's original question – when should depreciation begin – witness Thill ultimately answered “I’m not sure, because there may be costs associated with modifying the system in order to be able to change when that happens.” He further testified, “I think the Public Staff has raised an issue which is quite frankly valid . . . . I think it’s important that we all evaluate it. As I mentioned, we started looking at that a year ago and we made one modification. I don’t think it’s probably enough and I think it needs to continue to develop much as this entire argument has.” *Id.* at 49-50.

Witness Thill agrees with Commissioner McKissick that the establishment of a bright line standard for when depreciation begins would be beneficial to all parties involved, but he notes that it would be important for the Company to conduct a review of the issue and understand the implications of any standard that is implemented. *Id.* at 51.

### ***Discussion and Conclusions***

The Commission acknowledges that the issue of the Company's UPIS accounting practices and procedures was addressed by the Commission in the Company's rate case in 2009 in Docket No. W-218, Sub 274 after the Public Staff determined that the Company's plant records were inadequate following Aqua NC's acquisition of several disparate water and wastewater utilities. In the Sub 274 proceeding, the Public Staff and Aqua NC stipulated that the Company would take various steps to remedy this issue, including that the Company would “review its procedures for determining when projects are completed and should be closed and file its recommended changes to its procedures within 90 days of the issuance date of [the Sub 274] Order.”

In its first report filed in response to the Sub 274 Order, Aqua NC stated that the Company's Accounting Department allowed 30 to 60 days after the in-service date for projects to be booked. However, as evidenced by the testimony and exhibits of Public Staff witnesses Henry and Junis in this proceeding, the Company has failed to consistently book or unitize projects within that timeframe. According to witnesses Henry and Junis, the Company's unitization of some projects more than 60 days after they are placed in service has resulted in the Company continuing, on occasion, to accrue AFUDC after the in-service date and postponing the start of depreciation. Witnesses Henry and Junis explain that this delay in unitization of projects can lead to a decrease in accumulated depreciation and a corresponding increase in rate base which can be financially beneficial to the Company and detrimental to ratepayers. The impact of delays in unitization is magnified when, as witnesses Henry and Junis demonstrated, unitization does not occur until the year after an asset is placed in service.

While Aqua NC witness Thill testifies that the number of projects identified by the Public Staff as having unitization issues was relatively small in comparison to all of its plant additions including routine replacements, WSIC/SSIC projects, and other CWIP projects, the Commission observes that inconsistency in the Company's UPIS accounting practices and procedures is a longstanding issue that may have a detrimental effect on customers, although the Commission acknowledges that the controversy as to when depreciation should begin is a relatively new development in this rate case.

In this proceeding Aqua NC requests that the Commission allow the unitization date to be the date in which depreciation begins; whereas the Public Staff maintains that the in-service date is the appropriate date. Witnesses Henry and Junis testify that ideally, the in-service date will occur in the same month as the unitization date. Although not presented in their joint prefiled testimony, at the expert witness hearing witness Junis testifies that he recently became aware that the PowerPlan asset management system contains a “completed construction not classified” or “Account 106” function that stops the accrual of AFUDC and begins depreciation when the asset is placed in service, while allowing for components of the asset to “continue to be accounted for during a designated period of time or until it is believed that all the costs have been captured.” On cross-examination from the Commission, witness Thill states that it was his understanding that Aqua NC’s version of PowerPlan had contained that module or functionality since Aqua NC began using the software and that other Essential Utilities subsidiaries use the module or functionality. However, witness Thill notes that knowledgeable Aqua NC staff had concerns about the viability of the “completed but not yet categorized” functionality in Aqua NC’s particular case.

Based upon the record evidence in this proceeding, the Commission acknowledges that Aqua NC has operated under the PowerPlan accounting system since August 27, 2010, with unitization and recording of plant additions on a system-specific basis having been initiated in the second calendar quarter of 2010. In particular, in its Quarterly Status Reports filed in Docket No. W-218, Sub 274, Aqua NC informed the Commission that “[o]n a monthly basis the Accounting Department sends the Regional Managers a CWIP report for review, requesting that the Managers notify Accounting of projects that are complete and in service. Accounting allows 30 to 60 days for any trailing costs to be charged to these in-service activity numbers before closing the asset.” Since that time, the Commission notes that Aqua NC has had three general rate cases (Subs 319, 363, and 497) prior to the Company’s current Sub 526 rate case. The Commission observes that in none of those cases was an allegation raised by any party, including the Public Staff, that Aqua NC’s UPIS and unitization practices and policies did not conform with the Uniform System of Accounts or that the Company’s depreciation practices were deficient in any way. Nor was there any indication that the accounting issues noted by the Public Staff in the Sub 274 rate case were not fully resolved.

However, in the present proceeding, as a result of Aqua NC’s novel request for aggregate deferral accounting treatment and witnesses Henry and Junis investigation of the Company’s plant additions dating back to 2015, the Public Staff discovered that the Company’s approach for closing CWIP projects to plant in service was not being utilized consistently. Witnesses Henry and Junis informed the Commission that there are numerous projects that have been unitized by the Company in the same month, and sometimes even the same day, as being placed in service, while others are unitized months, or even years, after being placed in service. Further, witnesses Henry and Junis explained that the delay in unitizing the plant projects also delays the start of depreciation and in some instances the conclusion of AFUDC. Witnesses Henry and Junis stated that the Company’s approach, which allows 30 to 60 days for any trailing costs to be charged

to projects before closing the asset, would be acceptable to the Public Staff if utilized consistently and for an overwhelming majority of its CWIP projects.

The Commission agrees with the testimony of witnesses Henry and Junis that ideally, the in-service date should occur in the same month as the unitization date such that depreciation begins with the in-service date. The Commission also agrees that, without exception, the accrual of AFUDC should end on the in-service date of an asset. The Commission finds and concludes that Aqua NC's current UPIS unitization policy with respect to the commencement of depreciation would continue to be acceptable if utilized consistently by Aqua NC with strict adherence to a period of 30 to 60 days being allowed for any trailing costs to be charged to the projects before closing the asset to plant in service. Furthermore, Aqua NC should give particular attention to plant in-service dates occurring at the end of the calendar year such that the one-half year's depreciation expense is recorded in the year the plant is placed in service to the maximum extent possible.

In order that the Commission may fully and finally resolve this issue on a prospective basis, the Commission will require Aqua NC to conduct a comprehensive review of its current procedures and policies for determining when projects are complete, in-service, and booked to plant in service and file the Company's findings with respect to its internal accounting practices and policies and any plans or recommendations regarding changes in those procedures and policies within 90 days of the date of the Order in this proceeding. The purpose of this requirement is to evaluate the merits and challenges of establishing prospective practices and policies which are understood by the Company, the Public Staff, and the Commission so that issues such as those raised in this case do not arise in the future.

Moreover, Aqua NC's comprehensive review of its UPIS practices and policies should include an analysis of whether the Company can utilize the functionality provided by PowerPlan, discussed at the expert witness hearing by witnesses Junis and Thill, to book completed but not classified costs on the in-service date and on a continual basis shortly thereafter as invoices are received and paid until the entire project can be unitized to ensure that AFUDC ends and depreciation begins on the in-service date. Aqua NC and the Public Staff should work together to fully explore and address the UPIS issues and come to a consensus settlement, if possible, such that this matter will not be a litigated issue in a future rate case proceeding. Further, Aqua NC should report to the Commission regarding the status of the Company's evaluation and its proposed implementation plan and timeframe, if applicable. Upon filing of such analysis by Aqua NC, the Commission shall issue a further order either approving a change in Aqua NC's current UPIS practices and policies or continuing the Company's current practices and policies with stricter attention to specified guidelines as discussed herein.

In the interim, the Commission concludes that within 30 to 60 days after the in-service date for CWIP projects Aqua NC should record the CWIP costs to plant in service such that the projects begin depreciating. Moreover, the Commission concludes that Aqua NC should be particularly attentive to closing assets from CWIP to plant in

service in the proper calendar year such that the half year's depreciation expense that should be taken on the Company's books and records in the first year the asset is placed in service begins in the appropriate calendar year. Finally, the Company should continue its current policy of ceasing AFUDC accrual as of the plant in-service date.

In reaching these conclusions, the Commission gives significant weight to the testimony of witness Thill regarding the volume of capital project transactions that occur in a given month and that project costs can be as simple as a single invoice or as complex as hundreds of lines of activity including vendor payments, internal payroll capitalizations, inventory assignments, overhead allocations and AFUDC assessments. The Commission also gives significant weight to the testimony of witness Thill that the accounting department must work with other departments within the Company to determine the in service date, to obtain required invoice approvals, and to make appropriate accounting entries, and that such communication between departments requires some necessary period of time to accomplish. Further, the Commission acknowledges the testimony of witness Thill that the Uniform System of Accounts guides utility accounting, supplemented by orders of the Commission. The Commission gives significant weight to the testimony of witness Thill that the Uniform System of Accounts' description of CWIP states that work orders shall be cleared from the CWIP account as soon as practicable after completion of the job. Consequently, the Commission concludes that Aqua NC should clear the CWIP account to plant in service once the project is completed as soon as practicable after completion of the project.

Further, the Commission gives significant weight to the testimony of witness Junis at the expert witness hearing regarding the "completed construction not classified" or "Account 106" function of PowerPlan that stops the accrual of AFUDC and begins depreciation when the asset is placed in service, while allowing for components of the asset to "continue to be accounted for during a designated period of time or until it is believed that all the costs have been captured." The Commission gives substantial weight to the Public Staff's uncontroverted testimony that the in-service date is the objective point in time when an asset is "used and useful," is installed, constructed, functional, and providing service. As of the in-service date, the asset is being utilized (i.e., water can flow, lift station can pump, etc.) and begins to devalue with the passage of time due to wear and tear, which is accounted for through depreciation over the expected life of the asset. Therefore, the Commission agrees with the Public Staff that the in-service date is the most appropriate point in time for depreciation to begin if Aqua NC's asset management system has the capability to accomplish that result for its North Carolina operations.

The Commission finds that the evidence in this proceeding demonstrates that the PowerPlan asset management program is widely utilized by the state's larger and more sophisticated utilities and contains a "completed construction not classified" or "Account 106" function that stops the accrual of AFUDC and begins depreciation when the asset is placed in service, while allowing for components of the asset to "continue to be accounted for during a designated period of time or until it is believed that all the costs have been captured." However, the Commission acknowledges that although witness Thill stated that generally speaking witness Junis correctly described the functionality of PowerPlan's

Account 106 function, witness Thill noted that “knowledgeable Aqua NC staff had concerns about the viability of the ‘completed but not yet categorized’ functionality in Aqua North Carolina’s particular case.” Consequently, the Commission finds and concludes that Aqua NC should evaluate whether the Account 106 function of PowerPlan could track asset costs, which are associated with assets that have been placed in service, and depreciate such asset costs at the general depreciation rate of the related plant for a reasonable period of time or until all vendor invoices have been received and recorded in the Company’s financial accounting records and should report to the Public Staff and the Commission regarding its findings. Such findings should be included with the aforementioned report filed with the Commission within 90 days of the issuance date of this Order.

Moreover, the Commission urges Aqua NC to consult with the Public Staff regarding the findings of its review of the Company’s current procedures and policies for determining when projects are complete, in-service, and booked to plant in service and to work collaboratively with the Public Staff regarding changes in those procedures and policies such that this matter will not be a litigated issue in a future rate case proceeding.

With respect to the matters identified by the Public Staff regarding the Company’s May 1, 2019 WSIC/SSIC Application, the Commission finds and concludes based upon the record evidence that the adjustments recommended by the Public Staff and agreed to in Paragraph I of the Stipulation to the in-service dates and associated accumulated depreciation, rate base, and return on certain projects related to the May 1, 2019 WSIC/SSIC Application are reasonable and appropriate to include in this rate case.

In regards to the adjustments to AFUDC recommended by the Public Staff, the Commission further finds and concludes based upon the record evidence that the adjustments recommended by the Public Staff to the in service dates, AFUDC, and associated accumulated depreciation, rate base, and return on certain capital expenditures unitized by the Company in the post-test year period in the present rate case and agreed to as part of the stipulated settlement are reasonable and appropriate to include in this rate case.

With respect to Aqua NC’s policy for calculating AFUDC, the Commission finds and concludes that Aqua NC should file its current AFUDC policy with the Commission within 90 days of the issuance date of this Order. Such policy should set forth Aqua NC’s calculation of its current AFUDC rate upon issuance of the Commission’s final Order in this proceeding and should identify the established parameters (total dollar amount of the project, length of project construction, etc.) for projects to qualify for an AFUDC accrual.

Finally, with respect to the disagreement between the stipulating parties in this proceeding concerning whether Aqua NC should, as recommended by the Public Staff, be required to track and include as a regulatory accounting adjustment in all future rate cases until the applicable assets have fully depreciated or retired the stipulated adjustments to (1) the in-service dates and associated accumulated depreciation, rate base, and return on certain projects related to the May 1, 2019 WSIC/SSIC Application

and (2) the in-service dates, AFUDC, and associated accumulated depreciation, rate base, and return on certain capital expenditures unitized by the Company in the post-test year period in the present rate case, the Commission declines to require such establishment of a regulatory accounting adjustment at this time. Rather, the Commission concludes that Aqua NC should be provided an opportunity to evaluate its current procedures for determining when projects are completed, in service, and booked to plant in service, to work collaboratively with the Public Staff regarding any plans to change those procedures, including any plans to implement the Account 106 feature of PowerPlan as discussed hereinabove, prior to the Commission requiring any further adjustments to Aqua NC's accumulated depreciation levels in a future rate case.

## **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 63–73**

### **Ratemaking and Revenue Requirement Issues**

The evidence in support of the ratemaking and revenue requirement findings of fact is found in the Stipulation and the testimony and exhibits of Aqua NC witnesses Becker, Thill, Gearhart, D'Ascendis, Berger, Hanley, Pearce, and Kunkel and Public Staff witnesses Henry, Feasel, Junis, Boswell, Hinton, Darden, and Franklin.

The following schedules summarize the gross revenues and rate of return that the Company should have a reasonable opportunity to achieve based on the increases and decreases in revenues approved in this Order for each rate entity. These schedules, illustrating the Company's gross revenue requirements, incorporate the adjustments found appropriate by the Commission in this Order.

SCHEDULE I

**Aqua North Carolina, Inc.**  
Docket No. W-218, Sub 526  
Net Operating Income for a Return  
For the Twelve Months Ended September 30, 2019  
Combined Operations

	<u>Present</u> <u>Rates</u>	<u>Increase</u> <u>Approved</u>	<u>After</u> <u>Approved</u> <u>Increase</u>
Operating Revenues:			
Service revenues	\$61,272,691	\$3,446,081	\$64,718,772
Late payment fees	105,583	6,597	112,180
Miscellaneous revenues	1,270,926	0	1,270,926
Uncollectibles & abatements	<u>(336,714)</u>	<u>(25,775)</u>	<u>(362,489)</u>
Total operating revenues	<u>62,312,486</u>	<u>3,426,903</u>	<u>65,739,389</u>
Operating Revenue Deductions:			
Salaries & wages	10,789,168	0	10,789,168
Employee pensions & benefits	3,161,501	0	3,161,501
Purchased water/sewer treatment	2,627,732	0	2,627,732
Sludge removal	760,234	0	760,234
Purchased power	3,878,492	0	3,878,492
Fuel for power production	18,494	0	18,494
Chemicals	1,330,863	0	1,330,863
Materials & supplies	535,914	0	535,914
Testing fees	1,062,424	0	1,062,424
Transportation	1,308,389	0	1,308,389
Contractual services-engineering	22,867	0	22,867
Contractual services-accounting	218,996	0	218,996
Contractual services-legal	372,517	0	372,517
Contractual services-other	4,646,229	0	4,646,229
Rent	295,836	0	295,836
Insurance	723,202	0	723,202
Regulatory commission expense	468,294	0	468,294
Miscellaneous expense	1,801,761	0	1,801,761
Interest on customer deposits	30,734	0	30,734
Annualization & consumption adjustments	98,917	0	98,917
Contra-OH allocations	<u>(274,679)</u>	<u>0</u>	<u>(274,679)</u>
Total O&M and G&A expense	33,877,885	0	33,877,885
Depreciation & amortization expense	10,733,726	0	10,733,726
Property taxes	678,027	0	678,027
Payroll taxes	772,558	0	772,558
Other taxes	288,922	0	288,922
Benefit costs - Pension	(1,251)	0	(1,251)
Regulatory fee	81,007	4,455	85,462
Deferred income tax	(121,271)	0	(121,271)
State income tax	272,249	85,560	357,809
Federal income tax	<u>2,229,709</u>	<u>700,747</u>	<u>2,930,456</u>
Total operating revenue deductions	<u>48,811,561</u>	<u>790,762</u>	<u>49,602,323</u>
Net operating income for return	<u>\$13,500,925</u>	<u>\$2,636,141</u>	<u>\$16,137,066</u>

SCHEDULE II

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Original Cost Rate Base

For the Twelve Months Ended September 30, 2019

Combined Operations

Plant in service	\$537,364,375
Accumulated depreciation	(151,179,665)
Contributions in aid of construction	(208,059,143)
Accumulated amortization of CIAC	80,039,515
Acquisition adjustments	2,159,025
Accum. amort. of acquisition adjustments	692,794
Advances for construction	(4,091,131)
Net plant in service	256,925,770
Customer deposits	(359,356)
Unclaimed refunds & cost-free capital	(193,255)
Accumulated deferred income taxes	(27,147,850)
Materials and supplies inventory	2,790,285
Excess capacity adjustment	0
Working capital allowance	5,119,829
Original cost rate base	<u>\$237,135,423</u>

Rates of return:

Present	5.69%
Approved	6.81%

SCHEDULE III

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Statement of Capitalization and Related Costs

For the Twelve Months Ended September 30, 2019

Combined Operations

	<u>Ratio %</u>	<u>Original Cost Rate Base</u>	<u>Embedded Cost %</u>	<u>Net Operating Income</u>
<b>PRESENT RATES</b>				
Long-Term Debt	50.00	\$118,567,712	4.21	\$4,991,701
Common Equity	<u>50.00</u>	<u>118,567,711</u>	7.18	<u>8,509,224</u>
Total	<u>100.00</u>	<u>\$237,135,423</u>		<u>\$13,500,925</u>
<b>APPROVED RATES</b>				
Long-Term Debt	50.00	\$118,567,712	4.21	\$4,991,701
Common Equity	<u>50.00</u>	<u>118,567,711</u>	9.40	<u>11,145,365</u>
Total	<u>100.00</u>	<u>\$237,135,423</u>		<u>\$16,137,066</u>

SCHEDULE I-A

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Net Operating Income for a Return

For the Twelve Months Ended September 30, 2019

Aqua NC Water Operations

	Present <u>Rates</u>	Increase <u>Approved</u>	After Approved <u>Increase</u>
Operating Revenues:			
Service revenues	\$36,559,502	\$1,986,987	\$38,546,489
Late payment fees	62,868	3,417	66,285
Miscellaneous revenues	759,977	0	759,977
Uncollectibles & abatements	<u>(172,554)</u>	<u>(9,378)</u>	<u>(181,932)</u>
Total operating revenues	<u>37,209,793</u>	<u>1,981,026</u>	<u>39,190,819</u>
Operating Revenue Deductions:			
Salaries & wages	7,029,367	0	7,029,367
Employee pensions & benefits	2,041,979	0	2,041,979
Purchased water	1,787,711	0	1,787,711
Purchased power	2,368,986	0	2,368,986
Fuel for power production	(1,571)	0	(1,571)
Chemicals	460,830	0	460,830
Materials & supplies	378,521	0	378,521
Testing fees	681,418	0	681,418
Transportation	885,052	0	885,052
Contractual services-engineering	9,986	0	9,986
Contractual services-accounting	135,888	0	135,888
Contractual services-legal	228,668	0	228,668
Contractual services-other	2,189,056	0	2,189,056
Rent	209,235	0	209,235
Insurance	442,138	0	442,138
Regulatory commission expense	290,858	0	290,858
Miscellaneous expense	1,086,984	0	1,086,984
Interest on customer deposits	23,936	0	23,936
Annualization & consumption adjustments	58,269	0	58,269
Contra-OH allocations	<u>(200,909)</u>	<u>0</u>	<u>(200,909)</u>
Total O&M and G&A expense	20,106,402	0	20,106,402
Depreciation & amortization expense	6,770,258	0	6,770,258
Property taxes	534,225	0	534,225
Payroll taxes	493,985	0	493,985
Other taxes	179,292	0	179,292
Benefit costs - Pension	(504)	0	(504)
Regulatory fee	48,373	2,575	50,948
Deferred income tax	(75,322)	0	(75,322)
State income tax	155,422	49,461	204,883
Federal income tax	<u>1,272,902</u>	<u>405,088</u>	<u>1,677,990</u>
Total operating revenue deductions	<u>29,485,032</u>	<u>457,124</u>	<u>29,942,156</u>
Net operating income for return	<u>\$7,724,761</u>	<u>\$1,523,902</u>	<u>\$9,248,663</u>

SCHEDULE II-A

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Original Cost Rate Base

For the Twelve Months Ended September 30, 2019

Aqua NC Water Operations

Plant in service	\$297,497,315
Accumulated depreciation	(90,717,400)
Contributions in aid of construction	(98,979,231)
Accumulated amortization of CIAC	37,254,305
Acquisition adjustments	6,192,960
Accum. amort. of acquisition adjustments	(2,433,069)
Advances for construction	<u>(2,748,037)</u>
Net plant in service	146,066,843
Customer deposits	(281,444)
Unclaimed refunds & cost-free capital	(46,582)
Accumulated deferred income taxes	(15,220,457)
Materials and supplies inventory	2,235,302
Excess capacity adjustment	0
Working capital allowance	<u>3,156,148</u>
Original cost rate base	<u>\$135,909,810</u>

Rates of return:

Present	5.69%
Approved	6.81%

SCHEDULE III-A

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Statement of Capitalization and Related Costs

For the Twelve Months Ended September 30, 2019

Aqua NC Water Operations

	<u>Ratio %</u>	<u>Original Cost Rate Base</u>	<u>Embedded Cost %</u>	<u>Net Operating Income</u>
<b>PRESENT RATES</b>				
Long-Term Debt	50.00	\$67,954,905	4.21	\$2,860,902
Common Equity	<u>50.00</u>	<u>67,954,905</u>	7.16	<u>4,863,859</u>
Total	<u>100.00</u>	<u>\$135,909,810</u>		<u>\$7,724,761</u>
<b>APPROVED RATES</b>				
Long-Term Debt	50.00	\$67,954,905	4.21	\$2,860,902
Common Equity	<u>50.00</u>	<u>67,954,905</u>	9.40	<u>6,387,761</u>
Total	<u>100.00</u>	<u>\$135,909,810</u>		<u>\$9,248,663</u>

SCHEDULE I-B

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Net Operating Income for a Return

For the Twelve Months Ended September 30, 2019

Aqua NC Sewer Operations

	Present <u>Rates</u>	Increase <u>Approved</u>	After Approved <u>Increase</u>
Operating Revenues:			
Service revenues	\$15,607,641	\$818,429	\$16,426,070
Late payment fees	18,813	987	19,800
Miscellaneous revenues	32,029	0	32,029
Uncollectibles & abatements	<u>(19,331)</u>	<u>(1,014)</u>	<u>(20,345)</u>
Total operating revenues	<u>15,639,152</u>	<u>818,402</u>	<u>16,457,554</u>
Operating Revenue Deductions:			
Salaries & wages	2,424,519	0	2,424,519
Employee pensions & benefits	696,455	0	696,455
Purchased sewer	570,367	0	570,367
Sludge removal	590,239	0	590,239
Purchased power	1,054,929	0	1,054,929
Fuel for power production	19,318	0	19,318
Chemicals	520,589	0	520,589
Materials & supplies	98,861	0	98,861
Testing fees	281,394	0	281,394
Transportation	301,127	0	301,127
Contractual services-engineering	11,385	0	11,385
Contractual services-accounting	35,728	0	35,728
Contractual services-legal	64,081	0	64,081
Contractual services-other	1,430,357	0	1,430,357
Rent	42,751	0	42,751
Insurance	177,221	0	177,221
Regulatory commission expense	76,800	0	76,800
Miscellaneous expense	407,765	0	407,765
Interest on customer deposits	683	0	683
Annualization & consumption adjustments	49,804	0	49,804
Contra-OH allocations	<u>(50,524)</u>	<u>0</u>	<u>(50,524)</u>
Total O&M and G&A expense	8,803,849	0	8,803,849
Depreciation & amortization expense	2,434,103	0	2,434,103
Property taxes	17,637	0	17,637
Payroll taxes	205,084	0	205,084
Other taxes	47,134	0	47,134
Benefit costs - Pension	(474)	0	(474)
Regulatory fee	20,331	1,064	21,395
Deferred income tax	(19,888)	0	(19,888)
State income tax	71,017	20,433	91,450
Federal income tax	<u>581,626</u>	<u>167,350</u>	<u>748,976</u>
Total operating revenue deductions	<u>12,160,420</u>	<u>188,847</u>	<u>12,349,267</u>
Net operating income for return	<u>\$3,478,732</u>	<u>\$629,555</u>	<u>\$4,108,287</u>

SCHEDULE II-B

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Original Cost Rate Base

For the Twelve Months Ended September 30, 2019

Aqua NC Sewer Operations

Plant in service	\$165,414,907
Accumulated depreciation	(44,951,137)
Contributions in aid of construction	(84,910,644)
Accumulated amortization of CIAC	32,786,629
Acquisition adjustments	(4,002,509)
Accum. amort. of acquisition adjustments	3,096,868
Advances for construction	<u>(1,287,424)</u>
Net plant in service	66,146,690
Customer deposits	(7,128)
Unclaimed refunds & cost-free capital	(6,342)
Accumulated deferred income taxes	(7,249,727)
Materials and supplies inventory	400,302
Excess capacity adjustment	0
Working capital allowance	<u>1,087,814</u>
Original cost rate base	<u>\$60,371,609</u>

Rates of return:

Present	5.76%
Approved	6.81%

SCHEDULE III-B

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Statement of Capitalization and Related Costs

For the Twelve Months Ended September 30, 2019

Aqua NC Sewer Operations

	<u>Ratio %</u>	<u>Original Cost Rate Base</u>	<u>Embedded Cost %</u>	<u>Net Operating Income</u>
<b>PRESENT RATES</b>				
Long-Term Debt	50.00	\$30,185,804	4.21	\$1,270,822
Common Equity	<u>50.00</u>	<u>30,185,805</u>	7.31	<u>2,207,910</u>
Total	<u>100.00</u>	<u>\$60,371,609</u>		<u>\$3,478,732</u>
<b>APPROVED RATES</b>				
Long-Term Debt	50.00	\$30,185,804	4.21	\$1,270,822
Common Equity	<u>50.00</u>	<u>30,185,805</u>	9.40	<u>2,837,465</u>
Total	<u>100.00</u>	<u>\$60,371,609</u>		<u>\$4,108,287</u>

SCHEDULE I-C

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Net Operating Income for a Return

For the Twelve Months Ended September 30, 2019

Fairways Water Operations

	Present <u>Rates</u>	Increase <u>Approved</u>	After Approved <u>Increase</u>
Operating Revenues:			
Service revenues	\$1,138,759	\$20,949	\$1,159,708
Late payment fees	1,621	30	1,651
Miscellaneous revenues	91,092	0	91,092
Uncollectibles & abatements	<u>(2,544)</u>	<u>(47)</u>	<u>(2,591)</u>
Total operating revenues	<u>1,228,928</u>	<u>20,932</u>	<u>1,249,860</u>
Operating Revenue Deductions:			
Salaries & wages	267,676	0	267,676
Employee pensions & benefits	85,115	0	85,115
Purchased water	0	0	0
Purchased power	75,588	0	75,588
Fuel for power production	(209)	0	(209)
Chemicals	24,115	0	24,115
Materials & supplies	9,810	0	9,810
Testing fees	19,827	0	19,827
Transportation	21,442	0	21,442
Contractual services-engineering	323	0	323
Contractual services-accounting	10,230	0	10,230
Contractual services-legal	17,214	0	17,214
Contractual services-other	151,349	0	151,349
Rent	14,202	0	14,202
Insurance	16,629	0	16,629
Regulatory commission expense	22,197	0	22,197
Miscellaneous expense	61,683	0	61,683
Interest on customer deposits	558	0	558
Annualization & consumption adjustments	(5,834)	0	(5,834)
Contra-OH allocations	<u>(2,539)</u>	<u>0</u>	<u>(2,539)</u>
Total O&M and G&A expense	789,376	0	789,376
Depreciation & amortization expense	133,475	0	133,475
Property taxes	30,683	0	30,683
Payroll taxes	14,300	0	14,300
Other taxes	13,481	0	13,481
Benefit costs - Pension	(147)	0	(147)
Regulatory fee	1,598	27	1,625
Deferred income tax	(5,748)	0	(5,748)
State income tax	4,394	522	4,916
Federal income tax	<u>35,984</u>	<u>4,281</u>	<u>40,265</u>
Total operating revenue deductions	<u>1,017,396</u>	<u>4,830</u>	<u>1,022,226</u>
Net operating income for return	<u>\$211,532</u>	<u>\$16,102</u>	<u>\$227,634</u>

SCHEDULE II-C

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Original Cost Rate Base

For the Twelve Months Ended September 30, 2019

Fairways Water Operations

Plant in service	\$13,024,429
Accumulated depreciation	(3,544,128)
Contributions in aid of construction	(8,239,542)
Accumulated amortization of CIAC	2,419,869
Acquisition adjustments	0
Accum. amort. of acquisition adjustments	0
Advances for construction	(69,670)
Net plant in service	3,590,957
Customer deposits	(5,931)
Unclaimed refunds & cost-free capital	(7,339)
Accumulated deferred income taxes	(380,042)
Materials and supplies inventory	21,017
Excess capacity adjustment	0
Working capital allowance	126,431
Original cost rate base	<u>\$3,345,093</u>

Rates of return:

Present	6.33%
Approved	6.81%

SCHEDULE III-C

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Statement of Capitalization and Related Costs

For the Twelve Months Ended September 30, 2019

Fairways Water Operations

	<u>Ratio %</u>	<u>Original Cost Rate Base</u>	<u>Embedded Cost %</u>	<u>Net Operating Income</u>
<b>PRESENT RATES</b>				
Long-Term Debt	50.00	\$1,672,547	4.21	\$70,414
Common Equity	<u>50.00</u>	<u>1,672,546</u>	8.44	<u>141,118</u>
Total	<u>100.00</u>	<u>\$3,345,093</u>		<u>\$211,532</u>
<b>APPROVED RATES</b>				
Long-Term Debt	50.00	\$1,672,547	4.21	\$70,414
Common Equity	<u>50.00</u>	<u>1,672,546</u>	9.40	<u>157,220</u>
Total	<u>100.00</u>	<u>\$3,345,093</u>		<u>\$227,634</u>

SCHEDULE I-D

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Net Operating Income for a Return

For the Twelve Months Ended September 30, 2019

Fairways Sewer Operations

	Present <u>Rates</u>	Decrease <u>Approved</u>	After Approved <u>Decrease</u>
Operating Revenues:			
Service revenues	\$2,189,589	\$(37,003)	\$2,152,586
Late payment fees	2,833	(48)	2,785
Miscellaneous revenues	40	0	40
Uncollectibles & abatements	<u>(6,413)</u>	<u>109</u>	<u>(6,304)</u>
Total operating revenues	<u>2,186,049</u>	<u>(36,942)</u>	<u>2,149,107</u>
Operating Revenue Deductions:			
Salaries & wages	235,581	0	235,581
Employee pensions & benefits	74,007	0	74,007
Purchased sewer	5,320	0	5,320
Sludge removal	169,995	0	169,995
Purchased power	107,989	0	107,989
Fuel for power production	1,569	0	1,569
Chemicals	28,526	0	28,526
Materials & supplies	14,503	0	14,503
Testing fees	13,848	0	13,848
Transportation	23,554	0	23,554
Contractual services-engineering	207	0	207
Contractual services-accounting	6,544	0	6,544
Contractual services-legal	11,020	0	11,020
Contractual services-other	147,857	0	147,857
Rent	8,916	0	8,916
Insurance	21,869	0	21,869
Regulatory commission expense	14,142	0	14,142
Miscellaneous expense	53,820	0	53,820
Interest on customer deposits	8	0	8
Annualization & consumption adjustments	(10,321)	0	(10,321)
Contra-OH allocations	<u>(2,807)</u>	<u>0</u>	<u>(2,807)</u>
Total O&M and G&A expense	926,147	0	926,147
Depreciation & amortization expense	342,524	0	342,524
Property taxes	2,322	0	2,322
Payroll taxes	15,183	0	15,183
Other taxes	8,619	0	8,619
Benefit costs - Pension	(137)	0	(137)
Regulatory fee	2,842	(48)	2,794
Deferred income tax	(3,662)	0	(3,662)
State income tax	16,722	(922)	15,800
Federal income tax	<u>136,955</u>	<u>(7,554)</u>	<u>129,401</u>
Total operating revenue deductions	<u>1,447,515</u>	<u>(8,524)</u>	<u>1,438,991</u>
Net operating income for return	<u>\$738,534</u>	<u>(\$28,418)</u>	<u>\$710,116</u>

SCHEDULE II-D

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Original Cost Rate Base

For the Twelve Months Ended September 30, 2019

Fairways Sewer Operations

Plant in service	\$20,037,782
Accumulated depreciation	(2,601,325)
Contributions in aid of construction	(7,928,978)
Accumulated amortization of CIAC	2,005,203
Acquisition adjustments	0
Accum. amort. of acquisition adjustments	0
Advances for construction	<u>14,000</u>
Net plant in service	11,526,682
Customer deposits	(92)
Unclaimed refunds & cost-free capital	(217)
Accumulated deferred income taxes	(1,223,091)
Materials and supplies inventory	7,306
Excess capacity adjustment	0
Working capital allowance	<u>124,618</u>
Original cost rate base	<u>\$10,435,206</u>

Rates of return:

Present	7.08%
Approved	6.81%

SCHEDULE III-D

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Statement of Capitalization and Related Costs

For the Twelve Months Ended September 30, 2019

Fairways Sewer Operations

	<u>Ratio %</u>	<u>Original Cost Rate Base</u>	<u>Embedded Cost %</u>	<u>Net Operating Income</u>
<b>PRESENT RATES</b>				
Long-Term Debt	50.00	\$5,217,603	4.21	\$219,661
Common Equity	<u>50.00</u>	<u>5,217,603</u>	9.94	<u>518,873</u>
Total	<u>100.00</u>	<u>\$10,435,206</u>		<u>\$738,534</u>
<b>APPROVED RATES</b>				
Long-Term Debt	50.00	\$5,217,603	4.21	\$219,661
Common Equity	<u>50.00</u>	<u>5,217,603</u>	9.40	<u>490,455</u>
Total	<u>100.00</u>	<u>\$10,435,206</u>		<u>\$710,116</u>

SCHEDULE I-E

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Net Operating Income for a Return

For the Twelve Months Ended September 30, 2019

Brookwood Water Operations

	Present <u>Rates</u>	Increase <u>Approved</u>	After Approved <u>Increase</u>
Operating Revenues:			
Service revenues	\$5,777,200	\$656,719	\$6,433,919
Late payment fees	19,448	2,211	21,659
Miscellaneous revenues	387,788	0	387,788
Uncollectibles & abatements	<u>(135,872)</u>	<u>(15,445)</u>	<u>(151,317)</u>
Total operating revenues	<u>6,048,564</u>	<u>643,485</u>	<u>6,692,049</u>
Operating Revenue Deductions:			
Salaries & wages	832,025	0	832,025
Employee pensions & benefits	263,945	0	263,945
Purchased water	264,334	0	264,334
Purchased power	271,000	0	271,000
Fuel for power production	(613)	0	(613)
Chemicals	296,803	0	296,803
Materials & supplies	34,219	0	34,219
Testing fees	65,937	0	65,937
Transportation	77,214	0	77,214
Contractual services-engineering	966	0	966
Contractual services-accounting	30,606	0	30,606
Contractual services-legal	51,534	0	51,534
Contractual services-other	727,610	0	727,610
Rent	20,732	0	20,732
Insurance	65,345	0	65,345
Regulatory commission expense	64,297	0	64,297
Miscellaneous expense	191,509	0	191,509
Interest on customer deposits	5,549	0	5,549
Annualization & consumption adjustments	6,999	0	6,999
Contra-OH allocations	<u>(17,900)</u>	<u>0</u>	<u>(17,900)</u>
Total O&M and G&A expense	3,252,111	0	3,252,111
Depreciation & amortization expense	1,053,366	0	1,053,366
Property taxes	93,160	0	93,160
Payroll taxes	44,006	0	44,006
Other taxes	40,396	0	40,396
Benefit costs - Pension	11	0	11
Regulatory fee	7,863	837	8,700
Deferred income tax	(16,651)	0	(16,651)
State income tax	24,694	16,066	40,760
Federal income tax	<u>202,242</u>	<u>131,582</u>	<u>333,824</u>
Total operating revenue deductions	<u>4,701,198</u>	<u>148,485</u>	<u>4,849,683</u>
Net operating income for return	<u>\$1,347,366</u>	<u>\$495,000</u>	<u>\$1,842,366</u>

SCHEDULE II-E

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Original Cost Rate Base

For the Twelve Months Ended September 30, 2019

Brookwood Water Operations

Plant in service	\$41,389,941
Accumulated depreciation	(9,365,674)
Contributions in aid of construction	(8,000,748)
Accumulated amortization of CIAC	5,573,511
Acquisition adjustments	(31,426)
Accum. amort. of acquisition adjustments	28,995
Advances for construction	<u>0</u>
Net plant in service	29,594,599
Customer deposits	(64,761)
Unclaimed refunds & cost-free capital	(132,775)
Accumulated deferred income taxes	(3,074,533)
Materials and supplies inventory	126,358
Excess capacity adjustment	0
Working capital allowance	<u>624,818</u>
Original cost rate base	<u>\$27,073,706</u>

Rates of return:

Present	4.98%
Approved	6.81%

SCHEDULE III-E

**Aqua North Carolina, Inc.**

Docket No. W-218, Sub 526

Statement of Capitalization and Related Costs

For the Twelve Months Ended September 30, 2019

Brookwood Water Operations

	<u>Ratio %</u>	<u>Original Cost Rate Base</u>	<u>Embedded Cost %</u>	<u>Net Operating Income</u>
<b>PRESENT RATES</b>				
Long-Term Debt	50.00	\$13,536,853	4.21	\$569,902
Common Equity	<u>50.00</u>	<u>13,536,853</u>	5.74	<u>777,464</u>
Total	<u>100.00</u>	<u>\$27,073,706</u>		<u>\$1,347,366</u>
<b>APPROVED RATES</b>				
Long-Term Debt	50.00	\$13,536,853	4.21	\$569,902
Common Equity	<u>50.00</u>	<u>13,536,853</u>	9.40	<u>1,272,464</u>
Total	<u>100.00</u>	<u>\$27,073,706</u>		<u>\$1,842,366</u>

## **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 74-76**

### **Water System Improvement Charge (WSIC) and Sewer System Improvement Charge (SSIC)**

In the Company's general rate case proceeding in Docket No. W-218, Sub 363, the Commission found it to be in the public interest to authorize Aqua NC to implement and utilize a rate adjustment mechanism (WSIC/SSIC rate adjustment mechanism) to recover the incremental depreciation expense and capital costs related to eligible investments in water and sewer infrastructure projects completed and placed in service between general rate case proceedings, as provided for in the then-newly enacted G.S. 62-133.12. Thus, Aqua NC was authorized to implement a WSIC/SSIC rate adjustment mechanism for recovery of such costs applicable to all of the Company's customers.

The Ongoing Three-Year WSIC/SSIC Plan filed by Aqua NC in Docket No. W-218, Sub 497A on March 2, 2020, is reasonable and meets the requirements of Commission Rules R7-39(m) pertaining to the WSIC and R10 26(m) pertaining to the SSIC.

The Commission's previously-authorized water and sewer system improvement charge rate adjustment mechanism for Aqua NC continues in effect, although, pursuant to Commission Rules R7-39(k) and R10-26(k), it has been reset at zero as of the date this Order is issued. Aqua NC may, under the Rules and Regulations of the Commission, next apply for a WSIC/SSIC rate surcharge on November 1, 2020, to become effective January 1, 2021. The WSIC/SSIC mechanism is designed to recover, between rate case proceedings, the costs associated with investment in certain completed, eligible projects for system or water quality improvement. The WSIC/SSIC surcharge is subject to Commission approval and to audit and refund provisions. Any cumulative system improvement charge recovered pursuant to the WSIC/SSIC mechanism may not exceed 5% of the total annual service revenues approved by the Commission in this general rate case proceeding.

## **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 77-83**

### **Customer Concerns - Service and Water Quality Related Issues**

The evidence supporting these findings of fact is contained in the testimony and exhibits of the public witnesses, the verified reports filed by Aqua NC and the Public Staff in response to the concerns testified to by the public witnesses, and the entire record in this proceeding.

A public witness hearing was held via WebEx on Monday, August 3, 2020, for the purpose of receiving the testimony of non-expert, public witnesses. A total of 24 customers testified during the hearing. Fifteen of the 24 witnesses testified that the poor quality of the water supplied by Aqua NC caused serious problems, including discoloration of fixtures, damage to appliances, and inability or difficulty using water for

drinking, cooking, bathing, and cleaning. Several witnesses testified that they opposed the Company's requested rate increase. The customers' testified regarding how the secondary water quality concerns they experience at their homes causes them stress, disrupts their daily lives, causes them to incur significant expense to repair and replace damaged appliances and plumbing fixtures, and to purchase bottled water for drinking and cooking. The concerns voiced by these witnesses relate to the high concentrations of iron and manganese in their water. The secondary water quality concerns of the customer witnesses appearing before the Commission in this docket were essentially the same in nature as those of customer witnesses who testified at the public hearings held in the Sub 319, 363, and 497 dockets in 2011, 2013, and 2018, respectively. However, the number of customers filing written complaints or testifying at the public witness hearing to lodge complaints was significantly less than for prior Aqua NC rate cases.

In addition to the effects of high concentrations of iron and manganese on their personal property, some witnesses who testified in this docket expressed concerns about the potential effects of these elements on their health and the health of their families. Six witnesses testified regarding Aqua's use of flushing to reduce the effects of iron and manganese in their water. Of those six, three customers testified that they received notice of the flushing and that it helps improve secondary water quality, and three witnesses testified regarding inadequate notice of flushing, excessive flushing and the cost of water used for flushing<sup>37</sup>. Several witnesses testified that they had installed water filtration systems in their homes at significant cost to them because of the poor water quality supplied to their homes by the Company.

Some of the witnesses, who testified about issues related to poor water quality also testified about issues with Aqua NC's customer service. They testified about the lack of responsiveness to customer communications. It should be noted that some customers praised Aqua NC for the progress it has made in improving customer service following the Sub 497 proceeding.

Most wastewater customers expressed frustration with flat rate sewer service. Five wastewater customers testified that they would prefer metered sewer service and two other wastewater customers testified that they would be interested in exploring whether metered sewer service would cost less than the current base charge.

Aqua NC's verified reports on customer comments addressed the concerns raised by the witnesses at the public witness hearing. In its Report on Customer Comments from Public Hearings held on August 3, 2020, filed on August 24, 2020, Aqua NC reported that it spoke to, met with, or otherwise attempted to contact the witnesses who testified at the hearing to discuss their concerns, address their concerns, and provide helpful explanations and answers regarding issues they raised. Aqua NC informed customers that, with regard to secondary water quality issues, the Company has invested a great deal of time, effort, and resources trying to improve secondary water quality issues related

---

<sup>37</sup> Per Aqua NC, when flushing is conducted or suggested by the Company, customers receive a billing credit.

to the presence of iron and manganese in the water supply used to serve its customers. Aqua NC explained that over the years and continuing to date, it has implemented iron and manganese removal techniques such as flushing, oxidation, sedimentation and filtration, including the installation of expensive manganese dioxide filters. Aqua NC stated that since 2015 the Company has installed 46 iron and manganese filters statewide at a cost of \$16.8 million and 56 cartridge filters at a cost of \$218,000. The Company's combined investment in filtration totals over \$17 million. Aqua NC stated it implemented an aggressive water quality operational plan in January 2018 to ensure that water quality is addressed pending the completion of requisite capital improvements. In addition to the filter installations, Aqua's water quality plan included the launch of a tank cleaning project, an in-house water quality monitoring program, and development of a rigorous flushing plan for those systems with the highest level of minerals causing secondary water quality complaints.

Aqua NC also addressed customer concerns regarding customer service. The Company stated that it has made several improvements to its local communications efforts since its last rate case using customer input from its customer focus group, including: (1) improved messaging regarding flushing campaigns using WaterSmart Alert; (2) increased use of local signage at community entrances and exits for awareness of flushing activities while a campaign is in progress; and (3) addition of a bit.ly link on WaterSmart text messages that links customers to a site with a comprehensive message.

Aqua NC also stated in its report that it provides a broad range of options and resources for both one-way alerts and two-way communications. These include the Company's website, call center, personal contact from field operators, and its customer experience program (CX Program). The Company explained that the CX Program is intended to highlight the Company's commitment to the core values of respect, integrity, and the pursuit of excellence. The program was formally launched at the end of 2019 and has included a formal customer survey, CX working groups focused on improving communications with customers, and residential water customer journey mapping which maps every touchpoint residential water customers have with Aqua NC from the start of service and includes every possible interaction a customer may have with Aqua NC.

The Public Staff filed its verified response to Aqua's report on customer concerns on September 4, 2020, noting that it is concerned that customers contacting Aqua regarding an unreasonably high water bill cannot obtain a printout of the AMR 40 daily meter readings. In Aqua's verified reply comments filed on September 11, 2020, the Company states that 40-day AMR history is currently available for review with customers, but this read history had "only recently been made available, and Aqua[ NC]'s Customer Service Representatives . . . are early in the learning curve." The Company further stated that while its daily reads are available for customers, the platform for customer use is not currently available. The Public Staff expressed frustration with Aqua's lack of progress in making this data available to its customers despite prior assurances that such a platform would be developed.

## EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 84–91

### Quality, Remediation Efforts, Environmental Compliance and Communication

The evidence supporting these findings of fact is contained in the testimony and exhibits of Aqua NC witnesses Becker and Berger, Public Staff witness Franklin, the determinations in the Sub 363 and Sub 497 Orders, the filings in the Sub 497A docket, and the record in this proceeding.

#### *Quality and Remediation Efforts*

As demonstrated by Becker Direct Exhibit 3, filed on December 31, 2019, Aqua NC's annual spend has ranged from \$14 million in 2013 to a projected high of nearly \$39 million through the end of 2019. The Company has invested heavily in infrastructure necessary to meet service and regulatory compliance standards within its nearly one thousand water and wastewater treatment, distribution, and collection systems across the state. Aqua NC has strengthened its focus on water quality improvement through its operation of the Company's Water Quality Plan, as described by witness Berger, which has required significant investment in filtration and water treatment to address naturally-occurring components of groundwater in efforts to improve service.

Witness Berger testified that since 2015 and through December 31, 2019, the Sub 526 Rate Case Application filing date, Aqua NC has installed forty-one manganese dioxide filters for a total capital investment spend of just under \$15 million. The average removal rate by the manganese dioxide filters is 99.97% for iron removal and 99.95% for removal of manganese. In 2020, Aqua plans to install an additional eight (8) filters at Group 1 locations<sup>38</sup> with a capital expenditure of approximately \$2.7 million. Witness Berger testified that while work remains to be done, water quality has improved and both notices of deficiencies and customer complaints have been reduced. The Water Quality Plan initiated in 2018 identified 92 wells as Group 1 locations. Tr. vol. 8, 24.

Witness Berger testified that currently Aqua has 67 Entry Points statewide that are listed as Group 1 (Fe + Mn > 1.0 mg/L or Mn > 0.3 mg/L). Of those:

- Three (3) have filters scheduled to be installed in 2020
- Three (3) have filters currently in engineering design
- Eight (8) are awaiting Public Staff concurrence and support
- Two (2) are in draft Executive Summary form for future submittal to the Public Staff for review
- Fifteen (15) are offline and are not providing water to the systems
- Twelve (12) have alternative treatment or other sources of supply

---

<sup>38</sup> The highest priority for filtration.

- The remaining 23 are all undergoing prudency evaluation for future Executive Summaries and consideration for manganese dioxide filtration
- Thirteen (13) filters have been installed since 2018 (inception of Secondary Water Quality Program) on sites identified as Group 1 (Fe + Mn > 1.0 mg/L: Mn > 0.3 mg/L)

*Id. at 16*

Aqua NC witness Becker testified that in the eighteen months since the post-test-year ended in Aqua's last rate case filing (June 30, 2018), Aqua has installed twelve new iron and manganese ("Fe/Mn") filters along with thirteen cartridge filters at a cost of nearly \$4.6 million to help address secondary water quality issues in various systems. Tr. vol. 2, 122.

Aqua NC witness Berger addressed water and wastewater compliance for the Company, focusing on the Company's Water Quality Plan, including secondary water quality and emerging contaminants. She updated Dr. Christopher Crockett's discussion from the Company's last rate case which addressed Aqua NC's Water Quality Plan and the Company's goal to prioritize infrastructure improvements necessary to address secondary water quality issues. Aqua NC utilizes a combination of increased capital and operational process improvement to address secondary water quality issues within the Company's Water Quality Plan. The Company's Plan identifies capital and process needs to address each system's water quality issues and establishes a prioritization methodology. Examples of capital and process improvement needs include (but are not limited to) treatment options or filtration along with tank cleaning. This Plan works to develop a common framework to address secondary water quality issues with support from the DEQ, thereby collaboratively engaging regulatory stakeholders. Tr. vol. 8, 17.

Witness Berger explained that Aqua NC's continued collaboration with the Public Staff on the development and submission of "Executive Summaries" is an important part of the process for evaluation and recovery through the Water System Improvement Charge ("WSIC") of installation of secondary water quality treatment filters. The Public Staff and Aqua NC collaborate on a review of these requests. The Executive Summaries are voluminous documents that include detailed data requests from the Public Staff and are the subject of meetings between the parties for purposes of review. *Id. at 16.*

Finally, witness Berger testified that customer complaints, as measured by the quantity of Lab D (Discolored Water) and Lab A (Aerated Water) work orders that are issued when a customer calls (during business and after hours) regarding a discolored water complaint, have declined over the past several years. *Id. at 25.* Data gathered on these water quality work orders between 2017 – 2019 demonstrates a 24.5% decline statewide, in 2019, from 2017 numbers. Additionally, the water quality work orders related to the Bayleaf master system decreased by 49% over this same period of time and Aqua NC projects a 76% decline in that system from 2017 to 2020. Berger Revised Rebuttal Exhibit 3.

Witness Berger further testified that Aqua NC has upgraded its operational efforts to address secondary water quality issues by the addition of a dedicated staff member to facilitate the handling of discolored water calls captured via the issuance of Lab D Work Orders, resulting in a decline in those work orders. Lab D Work Orders are now assigned to the Technical Services Specialist, who is the liaison between the customer and operations Field Service Representative. Tr. vol. 8, 16.

With respect to Aqua NC's flushing plan for those systems with the highest level of minerals causing secondary water quality complaints, witness Berger testified in response to questions from Commissioner Brown-Bland that COVID-19 prompted the Company to temporarily suspend certain flushing activities "until life resumes a little bit more normal". *Id.* at 180. The Commission finds that Aqua NC should strive to return to its pre-COVID-19 level of flushing activities as soon as reasonably possible to improve water quality for its customers experiencing secondary water quality issues.

### ***Environmental Compliance---Water***

A significant change in 2016 to DEQ standards concerning iron and manganese produced a profusion of Notices of Deficiency ("NODs") for Aqua which were triggered by exceedances in secondary limitations for iron and manganese. Aqua received a total of 68 NODs for all three qualitative tiers. Prior to February 2016, Aqua had only received NODs for exceeding sMCLs for iron and manganese five times since 2011. Tr. vol. 8, 22-23. Witness Berger testified on rebuttal that Aqua NC had achieved success in obtaining DEQ rescission of 55 of the 68 NODs issued in 2016 totaling an 81% reduction. Aqua NC's performance in reducing the levels of iron and manganese was commended in writing by the former Raleigh Regional Supervisor, DEQ. Tr. vol. 8, 134.

Additionally, witness Berger testified that calls from Aqua NC customers regarding discolored water increased 23% during the first quarter of 2020 as compared with the first quarter of 2019. *Id.* at 42.

### ***Environmental Compliance---Wastewater***

In 2018, eleven individual Aqua NC systems received 36 NOVs. Twenty-four of the NOVs were for Neuse Colony based on monitoring reporting frequency. These violations were the result of a permit being issued late in the compliance period and changes in terms from the permit between its drafting and its issuance. Additionally, the violations were issued near the time Hurricane Florence struck the area. Aqua NC confirmed that the operator overlooked the permit and essentially missed some sampling during that period of time. Following that incident, Aqua NC instituted Quality Control checks that jointly involved Operations and Compliance to prevent future recurrence of a similar incident. While Aqua NC did commit the error, there was no environmental impact from the violations. Additionally, witness Berger testified that the Quality Control measures implemented helped formalize the permit receipt and implementation schedule. *Id.* at 43-44.

In 2019, twenty-eight individual systems were issued a total of 66 NOVs. Twelve were paperwork errors, caused by software that Aqua NC utilized to generate Discharge Monitoring Reports. Aqua NC corrected the error and resubmitted the reports; however, the violation stands. Thirty-two of the violations were associated with the Neuse Colony wastewater treatment plant. During the January through April 2019 time period, the plant was at capacity and Aqua NC had difficulty maintaining the biology of the wastewater treatment plant due to cold weather, impacts from Hurricane Florence and working to complete the Johnston County interconnect. Since the Johnston County interconnect was completed in April 2019, the Company has been in compliance at Neuse Colony. *Id.* at 45-46.

Witness Berger also described the unique environmental issues associated with Wildwood Green. A permit was issued in early-2018 which assigned not only lower Neuse River Basin nutrient loading, but also nutrient loading for Falls Lake to one plant. The plant was never designed for nutrient removal and thus it was very difficult to meet permit limits. Aqua NC and DEQ collaborated on a pilot project to make some minor alterations to the treatment systems, which accomplished some nutrient removal, and a bubble permit, which combined the nutrient limit for both Hawthorne and Wildwood Green which are both within the same basin. The pilot program and bubble permit allowed Aqua NC to avoid the expense of upgrading the facility. The eleven NOVs that were issued in January 2019, were essentially rescinded by DEQ through the issuance of the new permit. *Id.* at 46-47.

Aqua NC received three violations in early 2020 for its Olde Beau plant. These violations were the result of an unauthorized third-party dumping chemicals into the waste stream which impacted the biological activity at the plant. Because the Olde Beau plant is a smaller facility, correcting the biological balance is very difficult. *Id.* at 47-48.

In early 2020, Aqua NC received an NOV for Chapel Ridge based on a sanitary sewer overflow caused by an electrical malfunction at a lift station. Aqua NC has requested rescission of the NOV and the related civil penalty. The bases for rescission of the NOV are that the electrical malfunction could not have been prevented. Aqua NC took immediate remedial action; and the Company made upgrades at its other facilities to ensure that the failure could not be replicated. *Id.* at 48-49.

### ***Communications***

Company witness Becker testified that to further focus on communications with its customers, especially as it relates to better communications about water quality issues, Aqua NC developed and implemented its communications plan called “Close the Loop” which ensures that an Aqua NC employee contacts every customer who calls with a complaint as a means of follow-up after the customer’s call or complaint has been addressed. Tr. vol. 3, 52-53.

Witness Berger testified that Aqua NC’s Communications Plan improves its ability to effectively convey to customers news of its water quality remediation efforts, timing,

and education. The February 2018 roll-out of a project website for customers to learn more about the program and Aqua NC's actions deployed a useful resource, [www.ncwaterquality.com](http://www.ncwaterquality.com). The website combines with other modes of communication to allow the Company to share ongoing updates about progress. Witness Berger stated that it is actively utilized and regularly updated to provide a status of current capital filtration projects being considered and includes copies of letters sent to communities identifying water quality improvement projects completed in those communities. Additionally, Aqua NC utilizes this site to better inform Bayleaf customers of the flushing schedule for the Bayleaf System. In addition to calling, emailing, or texting customers, the use of an updated weekly schedule on the website has resulted in positive feedback from customers and a significant decline in Lab D work orders related to flushing activities received during this time, compared to previous years. Tr. vol. 8, 25-26.

Regarding communication and outreach, witness Berger testified that in May of 2019, Aqua NC established the Bayleaf Advisory Group for its largest and most complex public water system. The group is comprised of Aqua NC staff and nine Bayleaf customers. To date, Aqua NC has held three meetings and discussed various topics from water quality, operations, flushing efforts, educational materials, and other items. The feedback from customers has been utilized to update processes and improve communications. Tr. vol. 8, 26. In her consumer statement of position filed on June 9, 2020, Bayleaf customer, Ms. Becky Daniel, confirmed Aqua NC's improved performance in Bayleaf, including reference to the Advisory Group and to generally improved responses.

### ***Discussion and Conclusions***

The Commission finds that though some customer concerns persist, particularly in certain parts of Aqua NC's service territory regarding secondary water quality, including odor and staining attributes when the secondary elements exist at high levels in the water, the ~~Company's~~ evidence showed significantly increased investment and operational attention to these issues. The Commission concludes that the Company's efforts are responsive to customer concerns, reflect additional investment and operational diligence, and, if sustained, should support continued improvement in secondary water quality and service. No party presented any evidence in this proceeding contrary to this conclusion.

## **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 92–100**

### **Regulatory Oversight and Compliance – Reporting Requirements**

#### ***Aqua NC Witness Becker***

During his direct testimony Company witness Becker testified regarding issues related to Aqua's water quality, customer service, and communications. He also introduced Aqua NC's concerns regarding the filing and reporting requirement prescribed in the Sub 497 Order. He provided an overview of the filings and reports that Aqua NC has completed under the terms of the Sub 363 and Sub 497 rate case Orders in his pre-

filed direct testimony. Tr. vol. 2, 122-133. The table below lists each reporting requirement and identifies the source of the requirements. The table also includes the number of filings made by the Company pursuant to each requirement.

<b>Reporting Requirement</b>	<b>Ordering Document</b>	<b>Date of First Filing<sup>39</sup></b>	<b>Number of Filings</b>
Bi-monthly Report on Water Quality Issues	Sub 363, OP 8	May 2014	34
Semiannual Report Regarding Secondary Water Quality Concerns	Sub 363, OP 11 and 497, OP 10	August 2014	13
DEQ Quarterly Notice of Deficiency	Sub 497, OP 11	January 2019	16
Three Year WSIC/SSIC Plan	Sub 363 and 497; Commission Rules R7-39(m) and R10-26(m)	April 2015	6
Aqua NC Quarterly Earnings, WSIC/SSIC Revenue and Construction Status Reports	Sub 363 OP 10, Sub 497; Commission Rules R7-39(n) and R10-26(n)	May 2014	28
Application for Water, Sewer System Improvement Charge Rate Adjustments	Sub 363A; N.C.G.S. § 62-133.12 and Commission Rules R7-39 and R10-26	October 2014	12
Annual Heater Acquisition Incentive Account Report	Sub 319 and 497	June 2012	9
Secondary Water Quality Filtration Request Executive Summary	Sub 497, OP 11		30 <sup>40</sup>
Amendments to Tariffs Detailing Connection/ Capacity Fees	Sub 497, OP 24	May 2019	1
Future Accounting Treatment of Johnston County Transmission and Capacity Fees	Sub 497, OP 25	March 2019	1
NC Water Quality Plan and Customer Communication Plan	Sub 497, OP 15 and OP 16	March 2019	1

<sup>39</sup> Based on filings in Docket Nos. W-218, Sub 316, Sub 363A, and Sub 497A as of August 13, 2020.

<sup>40</sup> Based on prefiled direct testimony of Aqua NC witness Becker.

Reporting Requirement	Ordering Document	Date of First Filing <sup>39</sup>	Number of Filings
Report on Investigation and Evaluation of Possibility of Entering into Agreements with Vendors of Home Filtration Water Systems and Replacement Filters for a Discount	Sub 497, OP 17	March 2019	2
Aqua NC Proposed Policy and Procedure of Providing Customers a Bill Credit	Sub 497, OP 20	June 2019	1
Aqua NC Flushing Plan	Sub 497, OP 18	June 2019	1
Aqua NC Report of Specific Benefits of AMR Technology	Sub 497, OP 27	June 2019	1
Bi-Monthly Report on Secondary Water Quality Issues <sup>41</sup>	Sub 497, OP 9	January 2020	4
Application for Approval to Implement Secondary Water Quality System Improvement Projects <sup>3</sup>	N.C.G.S. § 62-133.12 and Commission Rule R7 -39	December 2014	12
WSIC/SSIC Annual Report and Calculations <sup>3</sup>	N.C.G.S. § 62-133.12 and Commission Rules R7-39(j) and (l) and R10-26(j) and (l)	February 2016	5

Witness Becker divided the reporting requirements into two groups: (1) pre- Sub 497 requirements and (2) requirements established in the Sub 497 Order. He testified that some of the reports are no longer relevant because the underlying issues either have been resolved or are well on the way to management and improvement and that the costs of preparation of these reports are significant to the Company. Witness Becker testified that the Company expended 588 work hours to file nine of the new reports established in the Sub 497 Order. According to his testimony, these 588 hours are in addition to the time required to comply with the Company's other filing and reporting obligations. *Id.* at 130-31.

Witness Becker asked the Commission to revisit Aqua NC's reporting requirements and modify them "given recent measurable progress plus the cost/benefit ratio of their continuance at the current level." *Id.* at 144. Witness Becker testified that some of the requirements should be revised, reduced, or restructured because the underlying circumstances supporting the need for the reports have changed and conditions have improved over time. *Id.* at 130-31. Witness Becker testified that (1) Aqua NC supports reporting requirements that are relevant and useful to the Commission as it carries out its oversight mission and (2) Aqua NC is interested in

---

<sup>41</sup> Not included in witness Becker's prefiled direct testimony.

participating in discussions to “assess whether the current reporting requirements should be revised.” *Id.* at 131.

Witness Becker elaborated on his views on reporting requirements with some level of specificity while responding to questions from Commissioner McKissick during the evidentiary hearing. He indicated that Aqua NC lacks a clear understanding of the information the Commission is interested in receiving and is concerned that the information the Commission receives is repetitive. Witness Becker outlined three changes that he deems appropriate: (1) eliminating reporting requirements for water systems that presently have “very reduced water quality complaints”; (2) modifying the thresholds used to determine whether Aqua NC must include a water system in its reports; and (3) lengthening the reporting interval so that reports are due annually, rather than semiannually. Tr. vol. 3, 76-77.

### ***Public Staff Witness Franklin***

The Public Staff’s views on Aqua NC’s reporting requirements were presented by witness D. Michael Franklin. His testimony touched on six topics: (1) the Company’s request to discontinue bi-monthly reporting on 16 of the 18 water systems about which customers complained in earlier rate cases, (2) the appropriateness and reasonableness of the thresholds used to determine whether Aqua NC must prepare and submit bi-monthly reports about the water quality in an individual water system, (3) the frequency with which Aqua NC must submit written water quality reports about water systems for which bi-monthly reporting is no longer required, (4) reporting oral communications between Aqua NC and DEQ, (5) the requirement that Aqua NC provide copies of select documents exchanged with DEQ, and (6) the parties’ differing interpretations of the requirements of Paragraph 14 of the Sub 497 Order.

Witness Franklin testified that the Public Staff agreed with Aqua NC’s request to discontinue bi-monthly reporting required by Ordering Paragraph 8 of the Sub 363 Order and Ordering Paragraph 9 of the Sub 497 Order for the following water systems: Meadow Ridge, Olde South Trace, Sedgemoor Village of Wynchester, Westmoor, Stonebridge, Sussex Acres, Swans Mill, Wood Valley, Castelli, High Grove, Medfield, Saddleridge, Upchurch Place, Waterfall Plantation, and Yorkwood Park. However, witness Franklin testified that the Public Staff does not support Aqua NC’s request to discontinue bi-monthly reporting on the Coachman’s Trail system because the system “continues to experience operational and equipment issues directly affecting water quality.” Tr. vol. 8, 86-87.

Witness Franklin addressed the thresholds used to determine whether Aqua NC must prepare and submit bi-monthly reports about the water quality in an individual water system in his testimony. Ordering Paragraph 11 in the Sub 363 Order established the thresholds as follows: semiannually written reporting is required 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. This requirement was continued under the terms of Ordering Paragraph 10 of the Sub 497

Order and witness Franklin recommended that it remain in place going forward. *Id.* at 95. Witness Franklin testified that “the current threshold of 10 percent or 25 billing customers is appropriate and reasonable because it ensures secondary water quality concerns affecting both large and small utility systems are properly identified.” *Id.* at 100.

Witness Franklin also provided testimony about the frequency with which Aqua NC must provide the semiannual report concerning secondary water quality concerns. Aqua NC requested that the interval between submission of its written reports for those water systems be lengthened from semiannual reporting to annual reporting. Witness Franklin testified that “the semiannual frequency is also appropriate and reasonable because it provides sufficient time for data collection and the timely development of corrective actions to address the issues identified.” *Id.* Witness Franklin elaborated during his examination by Commissioner Brown-Bland stating “we believe the annual time frame is too long and it doesn’t allow enough time for the Public Staff to reach out while the information is still fresh to customers.” *Id.* at 112.

Witness Franklin’s testimony included a discussion of the two reporting requirements related to Aqua NC’s communications with DEQ. Ordering Paragraph 14 in the Sub 497 Order requires Aqua NC to provide the Public Staff with written summaries of all meetings and conversations with, reports to, and the recommendations of DEQ regarding the water quality concerns being evaluated and addressed in Aqua NC’s systems. Witness Franklin initially recommended continuing this requirement, but he changed his recommendation based upon Aqua NC’s assertions that its communications with DEQ have been negatively impacted by those reporting obligations. *Id.* at 102. Aqua NC witnesses Becker and Berger both testified that the reporting requirements are burdensome and cumbersome and, as such, Aqua NC’s oral exchanges with DEQ have declined significantly. Witness Franklin testified that the Public Staff has changed its recommendation because it “does not want to suppress communications between Aqua NC and DEQ . . . with the understanding that written communications will continue and be provided to the Public Staff.” *Id.* Witness Franklin explained that the Public Staff is now recommending that written summaries of Aqua NC’s oral communications with DEQ are no longer required, but the Public Staff’s position assumes that Aqua NC will not materially alter the way in which it communicates with DEQ such that most communications are oral, rather than written. *Id.* at 103.

While Public Staff witness Franklin indicated that the Public Staff was recommending a that the Commission forego the reporting requirement related to oral exchanges with DEQ, he testified that the Public Staff was recommending that the Commission continue the requirement that Aqua NC provide the Public Staff with copies of its written correspondence with DEQ. *Id.* at 95. As such, witness Franklin recommended that Aqua NC continue to provide the Public Staff with copies of:(1) Aqua NC’s reports and letters to DEQ concerning water quality in its systems; (2) responses from DEQ concerning reports, letters, or other oral or written communications; and (3) DEQ’s specific recommendations to Aqua NC, by system, concerning each of the water quality concerns being evaluated by DEQ. *Id.* This

requirement was originally instituted by Ordering Paragraph 12 in the Sub 363 Order and was extended in Ordering Paragraph 14 of the Sub 497 Order.

Witness Franklin explained the Public Staff's interpretation of the requirements of Ordering Paragraph 14 in the Sub 497 Order on cross-examination. He stated that the "Public Staff views Ordering Paragraph 14 to be specifically related to all water quality issues, with the exception of paragraph (d)," which is restricted to secondary water quality issues. *Id.* at 106.

### **Aqua NC Witness Berger Rebuttal**

Witness Berger testified on rebuttal that the Company recognizes that some level of reporting to the Commission on secondary water quality concerns may be desired and warranted and recommended that in lieu of the current bi-monthly and semiannual reporting, that the Commission establish an Annual Secondary Water Quality Report to be filed by March 31st of each year. She suggested the annual report provide an accounting of the progress made in the previous calendar year and include a summary of systems that experienced secondary water quality concerns that have affected 10 percent of the customers in an individual subdivision area or 25 billing customers in an individual service area, whichever is less, in a semiannual period; a secondary water quality data update on the number of entry points that have consistent water quality results greater than factors for Group 1 with a status of each system; a secondary water quality project update that provides an update on filter projects; and Executive Summary updates from the WSIC/SSIC docket. *Id.* at 137-38.

Witness Berger testified that her recommendations align with other environmental regulatory reports and provide relevant information that can assist the Commission and Aqua's customers in assessing the Company's progress toward correcting secondary water quality concerns. She also recommended that the Commission stop its requirement that the Company provide DEQ communications for primary and secondary water quality concerns beyond the Company's NOD responses stating that Aqua NC does not have a poor compliance track record with its environmental regulators and asserting that the Public Staff did not present adequate justification in support of its proposal for a continued reporting requirement. *Id.* at 138.

Witness Berger also testified about Aqua NC's understanding of Ordering Paragraph 14 in the Sub 497 Order. She explained that based on the Findings of Fact, and the summary paragraphs related to Ordering Paragraphs 11 through 14, Aqua NC interprets the reporting requirements to relate only to secondary water quality issues. *Id.* at 144.

Additionally, witness Berger testified that the Company should not be required to report on primary water quality issues because Aqua's primary drinking water standards for the past three years were 0.7% while the national average of non-compliant public water systems was 38% and the average of non-compliant public water systems across the state was 33% for the same time period. She stated that Aqua NC is concerned that

the Public Staff's reporting expectations and recommendations have become punitive versus productive given that the Company's primary drinking water compliance record is historically very good when compared across North Carolina systems and other similarly sized and regulated systems. She also stated that reporting requirements are extensive and expensive, and Aqua NC requests the Commission to carefully review the question of whether they are, as constituted, productive of information that is necessary to sound regulatory review, or whether they are unproductively excessive and can be modified or eliminated. *Id.* at 132-33.

Witness Berger also testified that secondary water quality issues are not an Aqua-only issue. Iron and manganese are found in amounts greater than the sMCLs (Fe > 0.3 mg/L, Mn > 0.05 mg/L) in groundwater throughout the state. Witness Berger testified that despite Aqua NC's significant demonstrated improvement to address water quality issues through investment in filtration and operational attention, the resultant decline in water quality complaints, and its leading compliance record for primary contaminants, the Public Staff continues to recommend heightened reporting requirements. These reporting requirements for Aqua NC come at the cost of the Company staff's time and energy that could be re-allocated toward maintaining the historically good compliance record on primary drinking water standards and continuing significant improvement with regard to secondary water quality standards. *Id.* at 135-36. Additionally, witness Berger testified that reporting on both primary and secondary water quality issues would be extremely burdensome to the Company because of the level of detail required to track all communications throughout all locations among the 700 public water systems in North Carolina. *Id.* at 148-49. As a solution to reduce this burden, witness Berger suggested that provision of primary and secondary Notices of Violation and of Deficiency would meet the Commission's needs. *Id.* at 107.

### ***Public Staff Witness Franklin Redirect***

Witness Franklin testified on redirect examination that it was the Public Staff's position that the reporting requirements set out in subparagraphs (a) through (c) of Ordering Paragraph 14 of the Commission's Sub 497 apply to both primary and secondary water quality concerns. He testified that primary water concerns are addressed by regulatory limits on contaminants and could implicate health concerns. Witness Franklin further testified that, if Aqua NC does not have many primary water quality concerns, the reporting requirements associated with those concerns would not be onerous. *Id.* at 109.

When asked by Commissioner Brown-Bland why the Public Staff believed the semiannual reporting frequency should not be reduced to annual, witness Franklin testified that an annual reporting frequency could prevent the Public Staff from being able to contact customers regarding water quality issues until long after they have occurred and the details surrounding the issues may have been forgotten. To illustrate his point, witness Franklin noted that, pursuant to Aqua NC's recommended revision to the semiannual reporting requirement, a water quality issue experienced in January would not be reported on by the Company until March of the following year. In addition to the

concern that the details of the issue would no longer be fresh in the customer's mind if the Public Staff were to follow-up on the issue, witness Franklin noted that the passage of time between the occurrence of an issue and Public Staff follow-up might give a customer the impression that their concern was not important to the Public Staff. *Id.* at 112.

### ***Witness Berger Rebuttal Cross-Examination***

On cross-examination on her rebuttal testimony, witness Berger testified that requiring the Company to report on both primary and secondary water concerns would be burdensome to the Company. She appeared to suggest that the Public Staff should instead obtain this information directly from DEQ. *Id.* at 151.

### ***Discussion and Conclusions***

The evidence of record establishes that the overall quality of water service provided by Aqua NC is adequate. While the volume of customer complaints regarding water quality and customer service issues was substantially reduced in this case as compared to the Sub 497 rate case, the Commission notes that the nature of the complaints was largely unchanged and customers testified that long standing secondary water quality and customer service issues had improved, they remain unresolved.

Having carefully evaluated the evidence, the Commission concludes that the bi-monthly reporting requirement should continue for the Coachman's Trail, Barton's Creek Bluffs, and Lake Ridge Aero Park subdivisions.

The Commission further concludes that the semiannual reporting requirement regarding water quality issues should not be altered at this time. These requirements should remain in place so long as the Company continues to experience water quality complaints akin to those raised in the Sub 363 and Sub 497 dockets, and in the present case. This conclusion is supported by evidence that reports of discolored water increased during the first quarter of 2020 as compared to the previous year. The Commission further concludes that lengthening the interval between reports would impair the Commission's oversight of Aqua NC and, as witness Franklin testified, the Public Staff's ability to serve the interests of the using and consuming public.

Regarding the reporting requirements set out in subparagraphs (a) through (c) of Ordering Paragraph 14 of the Sub 497 Order, the Commission concludes that these requirements apply solely to secondary water quality concerns. A review of the Sub 363 Rate Case Order reveals that, in reference to Ordering Paragraphs 8, 11, and 12, the term "water quality" was used approximately 52 times with each reference either specifically or by context referring to secondary water quality. A review of the Sub 497 Rate Case Order reveals that, in reference to Ordering Paragraphs 9, 10, and 14, the term "water quality" was used 57 times with all but two uses referencing, either specifically or by context, secondary water quality. Additionally, as noted by witness Berger in her testimony, Finding of Fact 34 and the supporting discussion regarding

reporting requirements within the text of the Sub 497 Order are clear that the term “water quality” relates solely to secondary water quality. The same is true for the Findings of Fact and the supporting discussion regarding the reporting requirements within the text of the Sub 363 Order. The Public Staff’s assertion otherwise is simply not supported by the language contained in either the Sub 363 or Sub 497 Order. Accordingly, the Commission concludes that Aqua NC’s reporting requirements as previously elucidated in Ordering Paragraph 14 of the Sub 497 Order shall apply only to secondary water quality issues and additionally, shall from this point forward, only apply to written reports to DEQ; written communications between Aqua NC and DEQ; and the recommendations of DEQ regarding secondary water quality concerns, being evaluated and addressed in Aqua NC’s systems. Oral communications shall no longer be subject to the reporting requirements discussed in this Order or previously required under the Sub 497 Order.

Aqua NC shall henceforth provide the Public Staff copies of: (a) Aqua NC’s reports and letters to DEQ concerning secondary water quality concerns in its systems; (b) responses from DEQ concerning reports, letters, or other written communication received from Aqua NC concerning secondary water quality concerns in its systems; and (c) DEQ’s specific recommendations to Aqua NC, by system, concerning each of the secondary water quality concerns being evaluated by DEQ.

In reaching these conclusions, the Commission recognizes that the Public Staff has an obligation to ensure the using and consuming public is properly represented not only in rate cases but also in between rate case proceedings. The Commission greatly appreciates the care the Public Staff takes to ensure consumers are treated fairly. The Commission also recognizes that the Public Staff must have access to sufficient and relevant data and documentation to uphold its duty to fully analyze a utility’s sound and prudent management. Additionally, the time and effort required to comply with reporting requirements and the usefulness of the information are also relevant concerns and should be considered when formulating reporting requirements. The Commission notes that the amount of staff time and effort required to satisfy reporting requirements going forward should be appreciably less than the staff time and effort required to satisfy the filing and reporting requirements ordered in the Sub 497 Order for several reasons. First, Ordering Paragraphs 15, 16, 17, 18, 20, 24, and 25 required one-time or non-recurring filings, and Aqua NC has fully complied with the requirements set forth in those paragraphs. Second, the reporting requirements of Ordering Paragraph 14 of the Sub 497 rate case order have been clarified to relate only to secondary water quality issues. Third, Aqua NC will no longer be required to provide notification of oral communications with DEQ to the Public Staff. Finally, the Commission finds that it is appropriate to eliminate 15 of 16 previously required bi-monthly reports from existing requirements.

Regarding the provision of AMR meter data to customers, the Commission notes that its determination in the Sub 497 Order that it was appropriate to include Aqua NC’s investment in AMR technology in rates was premised in part on the Commission’s finding that the functionalities of AMR technology were being utilized to the benefit of ratepayers and benefits would incrementally increase to ratepayers as Aqua NC fully deployed the technology. As such, the Commission concludes that the Company shall, upon the filing

of this Order, share the 40-day meter read history collected by its AMR technology with its AMR-metered customers upon request. Furthermore, in its effort to stay apprised of the development of customers' access to AMR data, the Commission concludes that the Company shall file its Strategic Plan for Meter Data Management and Advanced Analytics referred to in the Company's filings in accordance with Ordering Paragraph 27 in Docket No. W-218, Sub 497A.

IT IS, THEREFORE, ORDERED as follows:

1. That the Stipulation between Aqua NC and Public Staff is hereby approved in its entirety;
2. That all of the findings, conclusions, and decisions reflected in this Order are hereby affirmed and are so ordered for compliance purposes;
3. That the Schedules of Rates, attached hereto as Appendices A-1, A-2, A-3, and A-4, are hereby approved and deemed to be filed with the Commission pursuant to N.C.G.S. § 62-138;
4. That the attached Schedules of Rates are hereby authorized to become effective for service rendered on and after the issuance date of this Order;
5. That the Notices to Customers, attached hereto as Appendices B-1, B-2, and B-3 shall be mailed with sufficient postage or hand delivered to all affected customers in each relevant service area, respectively, in conjunction with the next regularly scheduled billing process;
6. That Aqua NC shall file the attached Certificate of Service, properly signed and notarized, not later than 45 days after the issuance of this Order;
7. That the Commission considers neither the Partial Settlement Agreement and Stipulation filed on July 1, 2020, nor the parts of this Order pertaining to the contents thereof, as having precedential value with respect to future proceedings and the same shall not be cited, argued, or treated as such;
8. That all late-filed exhibits filed by Aqua NC and the Public Staff in this docket are hereby admitted in evidence;
9. That the Chief Clerk shall establish Docket No. W-218, Sub 526A as the reporting requirement docket for Commission-required reports as ordered herein and also for WSIC/SSIC filings;
10. That Aqua NC shall file a copy of its updated AFUDC policy in Docket No. W-218, Sub 526 within 60 days of the issuance date of this Order;

11. That Aqua NC shall conduct a comprehensive review of its current procedures and policies for determining when projects are complete, in-service, and booked to plant in service and file the Company's findings with respect to its internal accounting practices and policies and any plans or recommendations regarding changes in those procedures and policies within 90 days of the issuance date of this Order. Aqua NC shall consult with the Public Staff regarding the findings of its review and shall work collaboratively with the Public Staff regarding changes in those procedures and policies;

12. That Aqua NC should file annual reports described herein concerning the effect of the implementation of metered sewer rates on the monthly bills of residential customers in the Aqua NC Sewer and Fairways Sewer Rate Divisions with the Commission within 45 days after the calendar year ends, beginning with the calendar year ending December 31, 2021;

13. That Aqua NC shall compile monthly consumption data of customer accounts by blocks of per 1,000 gallons to properly design and evaluate a tiered inclining block rate structure;

14. That Aqua NC shall file quarterly reports with the Commission on its Conservation Pilot Program that, at a minimum, include monthly historical and current consumption by blocks of 1,000 gallons and the corresponding number of bills and revenues for each customer group, and such reports shall be filed within 30 days of the end of each calendar quarter, beginning with the quarter ending March 31, 2021. The semiannual reconciliation report on the Conservation Pilot Program indicating the amount to date of any surcharge or surcredit to customers shall be filed within 30 days of the reporting period, beginning with the reporting period ending June 30, 2021;

15. That the annual revenue reconciliation request by Aqua NC and the supporting calculation and data for an annual adjustment shall be filed with the Commission at least 45 days prior to the annual adjustment effective date;

16. That Aqua NC and the Public Staff shall develop a mutually-agreeable purchased water loss standard based upon the methodology for purchased water systems set forth in Aqua NC's Pearce and Kunkle rebuttal testimony for implementation in the Company's next general rate case and report on the progress of those discussions to the Commission within nine months of this Order;

17. That Aqua NC shall continue to file bi-monthly reports addressing secondary water quality concerns raised by customers in the Coachman's Trail, Barton's Creek Bluffs, and Lake Ridge Aero Park subdivisions in situations where the iron and manganese concerns remain pending further Order of the Commission. Such reports shall describe measures taken by Aqua NC 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,

flushing regimens, and cost estimates to install filtration systems (greensand or other filtration options deemed appropriate) or to procure alternate water sources;

18. That Aqua NC and the Public Staff shall continue to work together regarding the development of appropriate recommendations and solutions to improve secondary water quality as impacted by the levels of iron and manganese at the Company's affected water systems;

19. That the Public Staff and Aqua NC are required to file a written report with the Commission, on March 1 and September 1 each year in which the WSIC is in effect, on secondary quality concerns that are affecting its customers. If a particular secondary water quality concern has affected or is affecting 10% of the customers in an individual subdivision service area or 25 billing customers in an individual service area, whichever is less, the customers affected and the estimated expenditures that are necessary to eradicate to the extent practicable water quality issues related to iron and manganese through the use of projects that are eligible for recovery through the WSIC shall be detailed in the written report. The written report shall also contain a recommendation as to whether the Commission should order Aqua NC to pursue such corrective action and an underlying reason why the action should or should not be undertaken. If there are no secondary water issues or if the secondary water quality issues are below the 10%/25 threshold previously set forth, Aqua NC and the Public Staff shall so inform the Commission, but they need not report secondary water quality issues resolved by Aqua NC without the assistance or expectation of assistance of the WSIC;

20. That Aqua NC shall also continue to file its annual Three-Year WSIC and SSIC Plan, as well as its Quarterly Earnings, WSIC/SSIC Revenues, and Construction Status reports, its Annual Heater Acquisition Incentive Account Report, the DEQ Quarterly Notice of Deficiency filings, and the DEQ Secondary Water Quality Filtration Request Executive Summary;

21. That Aqua NC shall continue to promptly provide to and share with the Public Staff written reports to DEQ, written communication between Aqua NC and DEQ; and the written recommendations of DEQ regarding secondary water quality concerns being evaluated and addressed in Aqua NC's systems. Such communication to the Public Staff shall not be considered or treated as a formal report authored by Aqua NC, but rather as notification of the occurrence of written communications between the Company and DEQ and shall continue to contain a description of the salient topic and content points, shall be in a written format and shall be provided, at a minimum, on a bi-monthly basis until otherwise ordered by the Commission. Without limitation on the foregoing, Aqua NC shall provide the Public Staff copies of: (a) Aqua NC's reports and letters to DEQ concerning secondary water quality concerns in its systems; (b) written responses from DEQ concerning reports, letters, or other written communication received from Aqua NC concerning secondary water quality issues; (c) DEQ's specific written recommendations to Aqua NC, by system, concerning each of the secondary water quality concerns being evaluated by DEQ; and (d) written communications from DEQ to Aqua NC indicating DEQ's dissatisfaction with Aqua NC's response to DEQ's

concerns, directions or recommendations concerning water quality affected by iron and manganese;

22. That Aqua NC shall strive to return to its pre-COVID-19 level of flushing activities as soon as reasonably possible to improve water quality for its customers experiencing secondary water quality issues; that Aqua NC's general flushing plan filed on June 17, 2019, in Docket No W-218, Sub 497, shall be subordinate to the manufacturer's recommended flushing schedule whenever a sequestering agent, including SeaQuest® is introduced into a Company water system. Aqua NC shall follow the manufacturer's recommended flushing schedule, and any time Aqua NC does not follow the manufacturer's recommendation, the Company shall make a filing with the Commission if the recommended flushing does not occur within 60 days of the recommended time for flushing; such filing shall be made within 60 days of departing from the original recommended schedule, explaining the reasons the flushing schedule could not be followed;

23. That at any time after a year from the issuance of this Order, Aqua NC may request that the Commission revise or eliminate the regular and periodic reporting requirements ordered herein due to demonstrated and significant progress in customer satisfaction with improvements made in water quality related to levels of iron and manganese;

24. That Aqua NC shall take the appropriate measures to share the 40-day meter read history collected by the Company's AMR technology with the AMR-metered customers upon request and shall track when such information is being shared, including how such information is being provided to customers. This tracked information should be made available in a timely manner at the request of either the Commission or the Public Staff;

25. That, upon its completion, Aqua NC shall file with the Commission the Strategic Plan for Meter Data Management and Advanced Analytics;

26. That Aqua NC shall refund all partial, temporary rates and charges in excess of the final rates and charges found to be appropriate by the Commission, if any, in the Aqua NC Water, Aqua NC Sewer, and Brookwood Water Rate Divisions with interest at 10% compounded annually;

27. That Aqua NC shall file a refund plan for the excess partial, temporary rates and charges collected from the customers, if any, in the Aqua NC Water, Aqua NC Sewer, and Brookwood Water Rate Divisions within 30 days of the date of this Order and the Public Staff shall file a response to said refund plan no later than 60 days from the date of this Order; and

28. That the Chief Clerk shall close Docket No. W-218, Sub 497A.

ISSUED BY ORDER OF THE COMMISSION.

This the 26th day of October, 2020.

NORTH CAROLINA UTILITIES COMMISSION

A handwritten signature in black ink that reads "Kimberley A. Campbell". The signature is written in a cursive, flowing style.

Kimberley A. Campbell, Chief Clerk

Commissioner Kimberly W. Duffley did not participate in this decision.

Commissioner Daniel G. Clodfelter concurring in part and dissenting in part.

**DOCKET NO. W-218, SUB 497**

**Commissioner Daniel G. Clodfelter, concurring in part and dissenting in part:**

I join in the Commission's decision and opinion as to all save one group of issues, and to those items only I dissent. In Findings of Fact 9, 11, and 22, the Commission determines that the Stipulation between the Company and the Public Staff is just and reasonable and should be accepted in its entirety. Public Staff witness Feasel in her original prefiled testimony proposed disallowing 50% of the total compensation of the Company's top five executives, 50% of the expenses of the Aqua America board of directors allocated to North Carolina, 50% of the stock options allocated to the Company's North Carolina employees, and that portion of employee bonuses that is tied to an increase in earnings per share for the Company's ultimate parent entity. (The details of these items are discussed in the Commission's opinion at pages 50 through 56.) In paragraphs LL and MM of the proposed Stipulation the Public Staff has now abandoned these positions. For the same reasons set forth in my dissenting opinion in the Sub 497 Rate Case Order, believe the Public Staff's original position is the better and more persuasive one as a matter of sound policy, and I would therefore decline to accept the proposed Stipulation to the extent, but only to the extent, it withdraws these proposed adjustments and allows full recovery of these expenses from the Company's ratepayers.

/s/ Daniel G. Clodfelter  
Commissioner Daniel G. Clodfelter

SCHEDULE OF RATES

for

AQUA NORTH CAROLINA, INC.

for providing water and sewer utility service in

ALL ITS SERVICE AREAS IN NORTH CAROLINA AND THE EMERGENCY  
OPERATION OF MOBILE HILL ESTATES

**WATER UTILITY SERVICE**

► *All Aqua NC systems except as noted below*

Monthly Metered Service (residential and commercial customers):

Base facility charge (zero usage, based on meter size)

<1" meter	\$ 20.70
1" meter	\$ 51.75
1½" meter	\$ 103.50
2" meter	\$ 165.60
3" meter	\$ 310.50
4" meter	\$ 517.50
6" meter	\$1,035.00

Usage charge, per 1,000 gallons	\$ 6.38
---------------------------------	---------

*All service areas unless noted differently below*

For bulk purchased water system usage charges see attached Appendix A-2

***Conservation Pilot Program***

***Arbor Run, Bayleaf, Merion and Pebble Bay Subdivisions***

Tiered usage charge, per 1,000 gallons (residential)

1 - 4,000 gallons	\$ 4.14
4,001 - 8,000 gallons	\$ 6.21
8,001 - 15,000 gallons	\$ 9.32
15,001+ gallons	\$ 12.42

Tiered usage charge, per 1,000 gallons (irrigation meters)

1 - 15,000 gallons	\$ 9.32
15,001+ gallons	\$ 12.42

Monthly Unmetered Service (flat rate): <sup>1/</sup>

Residential customers	\$ 46.22
Commercial customers, per residential equivalent unit (REU)	\$ 73.63

**► *Brookwood and LaGrange Service Areas  
Cumberland and Hoke Counties***

Monthly Metered Service (residential and commercial customers):

Base facility charge (zero usage, based on meter size)

<1" meter	\$ 16.01
1" meter	\$ 40.03
1½" meter	\$ 80.05
2" meter	\$ 128.08
3" meter	\$ 240.15
4" meter	\$ 400.25
6" meter	\$ 800.50

Usage charge, per 1,000 gallons	\$ 4.57
---------------------------------	---------

For bulk purchased water system usage charges see attached Appendix A-2

Monthly Unmetered Service (flat rate): <sup>1/</sup>

Residential customers	\$ 37.24
Commercial customers (per REU)	\$ 52.56

**► *Fairways and Beau Rivage Service Area – New Hanover County***

Monthly Metered Service (residential and commercial customers):

Base facility charge (zero usage, based on meter size)

<1" meter	\$ 8.56
1" meter	\$ 21.40
1½" meter	\$ 42.80
2" meter	\$ 68.48
3" meter	\$ 128.40
4" meter	\$ 214.00
6" meter	\$ 428.00

Usage charge, per 1,000 gallons	\$ 1.55
---------------------------------	---------

Monthly Unmetered Service (flat rate): <sup>1/</sup>

Residential customers	\$	17.91
Commercial customers (per REU)	\$	23.61

**OTHER MATTERS**

Specific Service Area Connection Charges and Capacity Fees: <sup>2/</sup>  
(see attached Appendix A-3)

Connection Fee in All Other Service Areas: <sup>2/</sup>

<u>&lt;1" meter</u>		
For taps made to existing mains installed inside franchised service area		\$800.00
For individual connections installed <u>outside</u> franchised service area <sup>3/</sup>		Actual cost of installation <sup>4/</sup>
1" meter or larger		120% of actual cost of making tap, including setting meter and box

Water Capacity Fee per GPD – Flowers Plantation Development (Buffalo Creek and Neuse Colony):

(See Docket No. W-218, Sub 526)

Water capacity fee per GPD	\$	6.25
----------------------------	----	------

The bulk water capacity fee was changed by Johnston County, effective October 1, 2020. Such rates per GPD are subject to change based on future schedules of rates and fees issued by Johnston County.

<u>Meter Installation Fee:</u>	\$70.00
--------------------------------	---------

(The fee will be charged only where cost of meter installation is not otherwise recovered through connection charges.)

Production and Storage Contribution in Aid of Construction Fee: <sup>3/</sup>

For individual connections <u>outside</u> franchised service areas where lot owner has made no contribution in aid of construction toward production and storage facilities	\$1,700 per residential equivalent unit (REU)
---	---

Reconnection Charges: <sup>5/</sup>

If water service cut off by utility for good cause	\$35.00
If water service discontinued at customer's request	\$15.00

Billing Service Charge: <sup>6/</sup> \$2.00 per month per bill

New Customer Account Fee: \$20.00

(If customer receives both water and sewer utility service from Aqua NC, then the customer shall only be charged a new account fee for water.)

**SEWER UTILITY SERVICE**

► *All Aqua systems except as noted below*

Monthly Unmetered Service (flat rate):

Residential customers	\$ 75.38
Commercial customers (per REU)	\$ 105.53

STEP system flat rate (Monticello, Holly Brook, Saddleridge) \$ 32.00

Monthly Metered Service (residential and commercial customers):

Base facility charge (zero usage, based on meter size)

<1" meter	\$ 60.43
1" meter	\$ 151.08
1½" meter	\$ 302.15
2" meter	\$ 483.44
3" meter	\$ 906.45
4" meter	\$1,510.75
6" meter	\$3,021.50

Usage charge, per 1,000 gallons \$ 2.99

For bulk purchased sewer system charges see attached Appendix A-2

Carolina Meadows, Inc. will be charged 50% of the sum of all contributory water meter base facility charges, which is currently 186 REUs or 50% of 372 REUs.



Wastewater Capacity Fee per GPD – Flowers Plantation Development (Buffalo Creek):

(See Docket No. W-218, Sub 526)

Wastewater capacity fee per GPD	\$	11.00
(Combined transmission and treatment capacity fee)		

The bulk wastewater capacity fee was changed by Johnston County, effective July 1, 2020. Such rates per GPD are subject to change based on future schedules of rates and fees issued by Johnston County.

Sewer Plant Capacity Fee per GPD – Flowers Plantation Development (Neuse Colony):

(See Docket No. W-218, Subs 497 and 520)

Sewer plant capacity fee per GPD	\$	9.47
----------------------------------	----	------

The sewer plant capacity fee may change in the future as a result of additional improvements or further expansion by Aqua NC to the Neuse Colony wastewater treatment plant.

Developer Contribution to Aqua NC – 50% Aqua NC’s Cost of Buffalo Creek Pump Station and Force Main – Flowers Plantation Development (Buffalo Creek):

(See Docket No. W-218, Sub 497)

Pursuant to Amended Purchase Agreement dated May 14, 2002, between River Dell Utilities, Inc., Rebecca Flowers Finch (d/b/a River Dell Company), and Heater Utilities, Inc. (See Docket No. W-274, Sub 538 and Docket No. W-218, Sub 497)

\$440,816 divided equally among the first 2,000 single-family residential equivalents (SFREs) or \$220.41 per SFRE

Reconnection Charges: <sup>5/</sup>

If sewer service cut off by utility for good cause	Actual Cost
--	-------------

Grease Traps:

The Utility may require installation and/or proper operation of grease traps on grease producing commercial facilities. Failure to properly operate grease traps will result in disconnection of service pursuant to Commission Rule R10-16.

<u>New Customer Account Fee:</u>	\$	20.00
----------------------------------	----	-------

(If customer receives both water and sewer utility service from Aqua NC, then the customer shall only be charged a new account fee for water.)

Grinder Pump Installation Fee – Governors Club Subdivision: Actual Cost  
(See Docket No. W-218, Sub 277)

The homeowner or house builder shall be required to prepay in full to the outside contractor installing the grinder pump the entire cost of the installation, including the applicable engineering inspection fee, as specified in Aqua NC's Grinder Pump Installation In-house Procedures, a copy of which is filed with the Commission.

Once the grinder pump is initially installed, it will be the responsibility of Aqua NC to maintain, repair, and replace the grinder pump. However, if damage to a grinder pump is shown to be due to homeowner negligence, the homeowner will be liable for the cost of the repair or replacement of the grinder pump.

<u>Returned Check Charge:</u>	\$25.00
<u>Bills Due:</u>	On billing date
<u>Billing Frequency:</u>	Monthly for service in arrears
<u>Bills Past Due:</u>	15 days after billing date
<u>Finance Charges for Late Payment:</u>	1% per month will be applied to the unpaid balance of all bills still past due 25 days after billing date
<u>Availability Rates:</u>	

Woodlake Subdivision:	
Water	\$5.00 per month
Sewer	\$3.75 per month
Governors Village Subdivision, Governors Forest Subdivision, Governors Village Townhomes:	
Sewer only	\$12.50 per month
Governors Club:	
Sewer only	\$20.00 per month

Notes:

- <sup>1/</sup> The Utility, at its expense, may install a meter and charge the metered rate.
- <sup>2/</sup> In most areas, connection charges do not apply pursuant to contract and only the \$70.00 meter installation fee will be charged to the first person requesting service (generally the builder). Where Aqua NC must make a tap to an existing main, the charge will be \$800.00, and where main extension is required, the charge will be 120% of the actual cost.

- 3/ Individual connections outside franchised service areas may be made pursuant to this tariff in the following circumstances: (1) upon request of a bona fide customer as that term is defined in Commission Rule R7-16(a)(1); (2) the customer shall be located either within 100 ft. of a Franchised Service Area or located within 100 ft. of an existing Aqua NC main; and (3) the request may come from no more than two customers located in the same area (requests for more than two connections require an application for a new franchise or a request for approval of a contiguous extension). To connect such a customer, Aqua NC shall file a notice with the Commission in Docket No. W-218, Sub 177, at least 30 days before it intends to make the tap. This notice shall include an explanation of the circumstances requiring the tap and an 8.5" x 11" map showing the location of the tap in relation to Aqua NC's existing main. If the Public Staff does not object to the tap within the 30-day period, or upon written notice within that period from the Public Staff that it will not object, Aqua NC may proceed with the connection.
- 4/ Actual cost for such a connection shall include installation of a 6" or smaller main extension (if necessary), tap of the main, service line, road bore (if necessary), meter box, meter, backflow preventer (if necessary), and Aqua NC's direct labor costs. Aqua NC shall give a written cost quote to the customer(s) applying for connection before actually beginning the installation work.
- 5/ When service is disconnected and reconnected by the same unit owner within a period of less than nine months, the entire flat rate and/or base charge rate will be due and payable before the service will be reconnected.
- If sewer disconnection is required, after all reasonable efforts by the Utility to encourage the customer to comply with the provisions of the tariff have been made, the Utility may install a valve or other device appropriate to cut off or block the customer sewer line.
- Prior to disconnection, the Utility shall give the customer written notice at least seven days prior to disconnection. Said notice shall include, at the minimum, a copy of this reconnect provision, the estimated cost to make the cut off, and install the valve or other device.
- In the event that an emergency or dangerous condition is found or fraudulent use is detected, sewer service may be cut off without notice. In such an event, notice as described above, will be given as soon as possible.
- Upon payment of outstanding balance, actual cost of termination and reconnection and other fees (for example, deposit if required by the Utility), the Utility shall restore the service no later than the next business day.
- 6/ Aqua NC is authorized to include on its monthly water bill the charges resulting from sewer service provided by the Town of Cary, the Town of Fuquay-Varina, Wake County, and various Commission appointed emergency operators where specifically approved by the Commission. Aqua NC will bill the Town of Cary, the Town of Fuquay-Varina, Wake County, or appointed emergency operator \$2.00 per month per bill for providing this service.

**AQUA NORTH CAROLINA, INC.  
BULK PURCHASED WATER SYSTEM USAGE RATES**

Usage charge, per 1,000 gallons where water purchased for resale

<b><u>Service Area</u></b>	<b><u>Water Provider</u></b>	<b><u>Usage Charge/ 1,000 gallons</u></b>
<b>Aqua North Carolina Service Areas</b>		
Twin Creeks	City of Asheville	\$ 4.96
Heather Glen and Highland	City of Belmont	\$14.40
Southpoint Landing	City of Belmont	\$14.40
Park South	City of Charlotte	\$ 2.19
Parkway Crossing	City of Charlotte	\$ 2.19
Springhill / Springdale	City of Concord	\$ 5.42
Hoopers Valley	City of Hendersonville	\$ 3.47
Crystal Creek	City of Hendersonville	\$ 3.47
Rambling Ridge	City of Hendersonville	\$ 3.47
Brookwood	City of Hickory (outside city)	\$ 3.25
Heritage Farms	City of Hickory (inside city)	\$ 3.25
Cedarwood Estates	City of Hickory (inside city)	\$ 3.25
Hill-N-Dale	City of Lincolnton	\$ 9.21
East Shores	City of Morganton	\$ 2.51
Greenfield	City of Mount Airy	\$ 6.69
Bett's Brook	City of Newton	\$ 3.29
Crestwood	Davidson Water, Inc.	\$ 4.76
Lancer Acres	Davidson Water, Inc.	\$ 4.76
Beard Acres	Davidson Water, Inc.	\$ 4.76
Woodlake Development	Harnett County	\$ 2.78
Beechwood Cove	Chatham County	\$ 7.04
Chatham	Chatham County	\$ 7.04
Cole Park Plaza Shopping Center	Chatham County	\$ 9.98
Hidden Valley	Chatham County	\$ 7.04
Polks Landing	Chatham County	\$ 7.04
Chapel Ridge	Town of Pittsboro	\$13.69
Laurel Ridge	Town of Pittsboro	\$13.69

<u>Service Area</u>	<u>Water Provider</u>	<u>Usage Charge/ 1,000 gallons</u>
The Parks at Meadowview	Town of Pittsboro	\$13.69
River Hill Heights	Iredell Water Corp.	\$ 3.61
Bedford at Flowers Plantation	Johnston County	\$ 2.66
Bennett Place	Johnston County	\$ 2.66
Chatham	Johnston County	\$ 2.66
Cottages at Evergreen	Johnston County	\$ 2.66
Cottonfield Village	Johnston County	\$ 2.66
Creekside Place	Johnston County	\$ 2.66
Eastlake at Flowers Plantation	Johnston County	\$ 2.66
Evergreen	Johnston County	\$ 2.66
Flowers Crest	Johnston County	\$ 2.66
Flowers Shopping Center	Johnston County	\$ 2.66
Forge Creek	Johnston County	\$ 2.66
Longleaf	Johnston County	\$ 2.66
Magnolia	Johnston County	\$ 2.66
Magnolia Place/Village	Johnston County	\$ 2.66
Mill Creek North	Johnston County	\$ 2.66
Mill Creek West	Johnston County	\$ 2.66
Neuse Colony	Johnston County	\$ 2.66
North Farm	Johnston County	\$ 2.66
North Farm Cottages	Johnston County	\$ 2.66
North Village	Johnston County	\$ 2.66
Parkway Center/Village	Johnston County	\$ 2.66
Peachtree	Johnston County	\$ 2.66
Pineville Club	Johnston County	\$ 2.66
Pineville East	Johnston County	\$ 2.66
Pineville East Cottages/Palmetto Pl.	Johnston County	\$ 2.66
Pineville East Estates	Johnston County	\$ 2.66
Pineville West	Johnston County	\$ 2.66
Plantation Park	Johnston County	\$ 2.66
Plantation Pointe	Johnston County	\$ 2.66
Poplar Woods	Johnston County	\$ 2.66
River Dell East	Johnston County	\$ 2.66

<u>Service Area</u>	<u>Water Provider</u>	<u>Usage Charge/ 1,000 gallons</u>
River Dell Townes	Johnston County	\$ 2.66
Riverdell Elementary School	Johnston County	\$ 2.66
Ross Landing	Johnston County	\$ 2.66
South Plantation	Johnston County	\$ 2.66
South Quarter	Johnston County	\$ 2.66
Southgate	Johnston County	\$ 2.66
Summerset Place	Johnston County	\$ 2.66
Sun Ridge Farms	Johnston County	\$ 2.66
Sweetgrass	Johnston County	\$ 2.66
The Gardens at Flowers Plantation	Johnston County	\$ 2.66
The Meadows	Johnston County	\$ 2.66
The Nine	Johnston County	\$ 2.66
The Woodlands	Johnston County	\$ 2.66
Trillium	Johnston County	\$ 2.66
Village at Flowers Plantation	Johnston County	\$ 2.66
Walker Woods	Johnston County	\$ 2.66
Watson's Mill	Johnston County	\$ 2.66
West Ashley	Johnston County	\$ 2.66
Whitfield at Flowers Plantation	Johnston County	\$ 2.66
Wilders Woods and Extension	Johnston County	\$ 2.66
Holly Hills	Town of Forest City	\$ 5.63
Pear Meadows	Town of Fuquay-Varina	\$ 5.18
Swiss Pine Lake	Town of Spruce Pine	\$ 5.96
<b>Brookwood/Lagrange Service Areas</b>		
Kelly Hills	Fayetteville PWC	\$ 2.92
Bretton Woods	Fayetteville PWC	\$ 2.92
Raintree	Fayetteville PWC	\$ 2.92
Colony Village	Fayetteville PWC	\$ 2.92
Windsong	Fayetteville PWC	\$ 2.92
Porter Place	Fayetteville PWC	\$ 2.92
Thornwood	Fayetteville PWC	\$ 2.92
County Walk	Fayetteville PWC	\$ 2.92
Lands Down West	Fayetteville PWC	\$ 2.92

<u>Service Area</u>	<u>Water Provider</u>	<u>Usage Charge/ 1,000 gallons</u>
S & L Estates	Fayetteville PWC	\$ 2.92
Tarleton Plantation	Fayetteville PWC	\$ 2.92
Springdale	Fayetteville PWC	\$ 2.92
Ridge Manor	Fayetteville PWC	\$ 2.92
Forest Lake	Fayetteville PWC	\$ 2.92
Arden Forest	Fayetteville PWC	\$ 2.92
Wendemere	Fayetteville PWC	\$ 2.92
Jena-Shane	Fayetteville PWC	\$ 2.92
Stoney Point	Fayetteville PWC	\$ 2.92
Woodland Run	Town of Linden	\$ 5.23

**AQUA NORTH CAROLINA, INC.  
PURCHASED SEWER RATES**

**Aqua North Carolina Service Areas**

Monthly Metered Service where bulk service purchased from Charlotte (Park South Station and Parkway Crossing residential and commercial):

Base facility charge, zero usage (based on meter size)	Same as commercial charges listed on Appendix A-1, Page 4
Usage charge, per 1,000 gallons	\$ 6.45

Hawthorne at the Greene Apartments, Woodland Farm, and Beaver Farms Subdivision – Mecklenburg County: (See Docket No. W-899, Sub 37 and Docket No. W-218, Subs 357, 517, and 526)

Base facilities charge (to be collected and delivered to Carolina Water Service, Inc. of North Carolina <sup>1</sup> for treatment of the wastewater), per month	\$ 47.94 per REU <sup>2</sup>
--	-------------------------------

Each apartment building at Hawthorne at the Greene Apartments (formerly Vista Park Apartments) will be considered 92.42% occupied on an ongoing basis for billing purposes as soon as the certificate of occupancy is issued for the apartment building.

Collection service/commodity charge (based on City of Charlotte's master meter reading), per 1,000 gallons	\$ 6.75
--	---------

---

<sup>1</sup> On August 17, 2016, in Docket No. W-1044, Sub 24, et al., the North Carolina Utilities Commission issued an Order Approving Merger. In accordance with the Order, and pursuant to the Articles of Merger filed with the North Carolina Department of the Secretary of State on August 30, 2016, Bradfield Farms Water Company was merged into Carolina Water Service, Inc. of North Carolina effective August 30, 2016.

<sup>2</sup> Residential Equivalent Unit.

**AQUA NORTH CAROLINA, INC.  
SCHEDULE OF CONNECTION FEES**

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE - SEWER</u></b>
Alan Acres	\$ 800.00	
Allendale	\$ 500.00	
Altice Estates	\$ 800.00	
Amy Acres	\$ 500.00	
Apple Grove	\$ 500.00	
Applegate	\$ 500.00	
Arbor Run	\$ 500.00	
Armfield, Phases 1A, 1B, 2, 3, 4, 5	\$ 500.00	
Ashe Plantation	\$ 725.00	
Ashebrook Woods	\$ 500.00	
Ashton Park	\$ 500.00	
Auburndale	\$ 500.00	
Autumn Acres	\$ 800.00	
Avendale		\$3,500.00
Avocet, Phases 1A, 1B, 1C, 1D, 1E, 2, 3, 4, 5	\$ 500.00	\$ 500.00
Bakersfield	\$ 500.00	
Ballard Farm	\$ 500.00	
Ballentine Place	\$ 500.00	
Balls Creek	\$ 800.00	
Barkwood Lane	\$1,200.00	
Bayberry	\$ 800.00	
Beacon Hill	\$ 500.00	
Beacon Hills	\$ 800.00	
Beau Rivage	\$ 969.00	\$ 822.00
Beau Rivage Market Place Shopping Center	\$1,000.00	
Beechwood Cove	\$ 500.00	
Belews Landing	\$ 500.00	
Bella Port		\$2,500.00
Bells Crossing, Phases 1, 2, 3, 4	\$1,000.00	
Bennett Place		\$1,000.00
Berklee Reserve	\$ 500.00	
Bethel Forest	\$ 500.00	
Betts Brook	\$ 500.00	
Beverly Acres	\$ 800.00	

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE – SEWER</u></b>
Bexley Place	\$ 500.00	
Birkhaven	\$ 500.00	
Blue Water Cove	\$ 500.00	
Bogue Watch		\$2,500.00
Bonaire	\$ 500.00	
Brafford Farms	\$ 800.00	
Briar Creek	\$ 500.00	
Brickfield	\$ 400.00	
Bridgeport	\$ 800.00	
Bridle Wood	\$ 500.00	
Brights Creek	\$ 500.00	\$ 500.00
Brinley's Cove	\$ 500.00	
Brook Forest	\$ 800.00	
Buck Springs Plantation	\$1,000.00	
Carolina Marina		\$10,000.00
Cameron Point	\$ 500.00	
Candy Creek	\$ 500.00	
Cane Bay	\$ 500.00	\$ 500.00
Cannonsgate		\$2,500.00
Canterbury Trails	\$ 500.00	
Capeside Village	\$ 750.00	\$1,000.00
Carmel Hills	\$ 800.00	
Carmel Park	\$ 800.00	
Cassimir Commons	\$ 750.00	\$1,000.00
Castle Bay	\$ 500.00	\$ 500.00
Castlewood	\$ 800.00	
Catawba Shores	\$ 800.00	
Cedar Chase	\$ 500.00	
Cedar Creek	\$ 500.00	
Cedar Grove	\$ 800.00	
Cedar Valley	\$ 800.00	
Chapelwood Acres	\$ 800.00	
Charles Place at Arbor Run	\$ 500.00	
Chatham	\$ 500.00	
Clarendon Gardens (includes main extension)	\$1,125.00	
Cliftwood West	\$ 800.00	

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE – SEWER</u></b>
Clear Meadow	\$ 175.00	
Clubview Estates 1	\$ 800.00	
Collybrooke, Phases 1, 1A, 2	\$ 500.00	
Colvard Farms, Phase 9		\$ 500.00
Copperfield (Gaston)	\$ 800.00	
Coral Ridge	\$1,000.00	\$2,500.00
Country Acres	\$ 800.00	
Country Acres MHP	\$ 800.00	
Country Crossing, Phases I, II, and III	\$ 750.00	
Country Crossing, Phases IV and V	\$ 670.50	
Country Knolls	\$ 800.00	
Country Meadows	\$ 800.00	
Country Valley Ext (Lots 7G, 8G, 9G, 12E, 13E, 14E, 15E, 16E, 17F)	\$2,500.00	
Country Woods	\$ 800.00	
Countryside	\$ 500.00	
Crabtree II	\$ 500.00	
Craig Gardens	\$ 800.00	
Creedmoor Village Shopping Center	\$ 500.00	
Creekside	\$ 500.00	
Creekside Shores	\$1,000.00	
Crestview (Rowan County)	\$ 500.00	
Crestview (Cabarrus County)	\$ 800.00	
Cross Creek	\$ 500.00	
Crutchfield Farms	\$ 500.00	
Dalewood/Monteray	\$ 800.00	
Deer Path	\$ 500.00	
Deerwood	\$ 500.00	
Dolphin Bay		\$1,000.00
Dorsett Downs	\$ 500.00	
Eagle Landing	\$ 500.00	
East Bank	\$ 750.00	\$1,000.00
East Chestnut	\$ 800.00	
East Gaston MHP	\$ 500.00	
Eastlake	\$ 850.00	\$1,000.00
Edgewood Acres I & II	\$ 800.00	
El Camino	\$ 800.00	

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE - SEWER</u></b>
Emerald Plantation		Actual Cost
Enoch Turner	\$ 500.00	
Epes Trucking	\$ 500.00	
Estates at Meadow Ridge	\$ 500.00	
Ethan's Gate	\$ 500.00	
Ethan's Glen	\$ 500.00	
Fairfax	\$ 800.00	
Fairview Park	\$ 800.00	
Fairview Wooded Acres	\$ 800.00	
Falls Creek	\$ 500.00	
Fallscrest	\$ 800.00	
Farmwood	\$ 800.00	
Ferguson Village	\$ 500.00	
Fleetwood Acres I	\$ 800.00	
Fleetwood Falls; Fleetwood Falls, Sect 15	\$ 500.00	
Flowers Plantation Development (Buffalo Creek)	\$6.25 / gpd of capacity	\$11.00 / gpd of capacity
Flowers Plantation Development (Neuse Colony)	\$6.25 / gpd of capacity	\$9.47 / gpd of capacity
Fontain Village	\$ 800.00	
Forest Acres	\$ 800.00	
Forest Cove	\$ 800.00	
Forest Pines	\$ 500.00	
Forest Ridge	\$ 500.00	
Fountain Trace	\$ 800.00	
Fox Fire	\$ 800.00	
Fox Ridge	\$ 800.00	
Fox Run (Gaston)	\$ 800.00	
Foxbury	\$ 500.00	
Foxbury Meadows	\$ 500.00	
Freemont Park	\$ 500.00	
Gallagher Trails	\$ 800.00	
Gates at Ethan's Glen	\$ 500.00	
Glennburn (Sub 385)	\$1,500.00	
Glencroft (Catawba)	\$ 500.00	
Governors Club		\$4,500.00
Governors Forest		\$4,500.00
Governors Village		\$4,500.00
Grayson Park	\$ 500.00	
Graystone Forest	\$ 500.00	\$ 350.00

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE - SEWER</u></b>
Green Acres MHP	\$ 800.00	
Green Meadows	\$ 800.00	
Greenwood	\$ 500.00	
Hanover Downs	\$ 800.00	
Happy Valley	\$ 500.00	
Hartman Farms	\$ 500.00	
Hasentree, Phases 1-3, 4A, 4B, 4C, 5, 6A, 6B, 6C, 7, 8, 9, 10, 11, 15A, 15B, 15E		\$2,500.00
Heartwood	\$ 500.00	
Heather Acres	\$ 800.00	
Heather Glen	\$ 200.00	
Heritage Farms	\$ 500.00	
Heritage West	\$ 500.00	
Herman Acres	\$ 800.00	
Hickory Creek (Houses on Basswood Way Only)	\$ 500.00	
Hickory Ridge	\$ 500.00	
Hidden Creek	\$ 500.00	
Hidden Hills	\$ 500.00	
Hidden Valley (Chatham County)	\$ 500.00	
Hidden Valley (Catawba County)	\$ 800.00	
High Grove, Phase 3	\$ 500.00	
High Meadows	\$ 725.00	
Hillsboro	\$ 500.00	
Hilltop	\$ 500.00	
Holiday Hills	\$ 500.00	
Hollywood Acres	\$ 800.00	
Homestead-Catawba	\$ 500.00	
Hoyles Creek	\$ 500.00	
Huntcliff	\$ 500.00	
Hunters Mark	\$ 500.00	
Hunters Ridge	\$ 500.00	
Hunting Ridge	\$ 500.00	
Huntley Glen Townhomes, Phase 2	\$ 700.00	
Huntwood	\$ 500.00	
Idlewild Park	\$ 800.00	
Ingram Estates	\$ 500.00	
Inlet Point Harbor	\$ 750.00	\$1,000.00

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE – SEWER</u></b>
Inlet Point Harbor Extension	\$1,000.00	
Inlet Watch	\$ 750.00	\$1,000.00
Inlet Watch-irrigation meters	\$ 300.00	
Interlaken	\$ 500.00	
Island Bridge Way	\$ 750.00	\$1,000.00
Jack's Landing	\$1,000.00	
Jamestowne	\$ 500.00	
Keltic Meadows	\$ 800.00	
Kendale Woods	\$ 940.00	
Kimberly Courts	\$ 500.00	
Kings Acres	\$ 500.00	
Knob Creek	\$ 500.00	
Knolls Phases I and II only	\$ 500.00	
Knollview	\$ 500.00	
Knollwood	\$1,500.00	
Knoxhaven	\$ 500.00	
Kynwood	\$ 500.00	
Lakeridge	\$ 500.00	
Lakewood	\$ 800.00	
Lamar Acres	\$ 800.00	
Lancer Acres	\$ 500.00	
Laurel Acres	\$ 500.00	
Laurel Woods	\$ 500.00	
Lazy S	\$ 800.00	
Lea Landing	\$1,000.00	\$2,500.00
Lennox Woods	\$ 500.00	
Lighthouse Village	\$ 750.00	\$1,000.00
Linville Oaks	\$ 500.00	
Little River Run	\$ 800.00	
Long Shoals	\$ 800.00	
Love Point	\$ 500.00	
Lynmore	\$ 800.00	
MacGregor Downs	\$ 800.00	
Magnolia Place	\$ 850.00	\$1,000.00
Magnolia Springs	\$ 800.00	
Mallard Crossing	\$ 500.00	
Mallardhead	\$ 500.00	
Maplecrest	\$ 800.00	

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE – SEWER</u></b>
Mariners Pointe, Phase 1	\$ 450.00	
Mar-Lyn Forest	\$ 500.00	
Meadow Creek	\$ 500.00	
Meadow Ridge	\$ 500.00	
Meadow Run	\$ 500.00	
Meadowbrook	\$ 500.00	
Mill Creek Landing	\$1,000.00	
Mineral Springs	\$ 500.00	
Monticello Estates	\$ 500.00	
Montreaux f/k/a Montrose	\$ 500.00	
Moorlands Reserve	\$1,333.00	
Moratuck Manor	\$1,000.00	
Morningside Park	\$ 800.00	
Morris Grove	\$ 500.00	
Morristown	\$1,000.00	
Moss Haven	\$ 800.00	
Mount Vernon Crossing, Phase 3	\$ 500.00	
Mountain Creek	\$ 500.00	
Mountain Point	\$ 350.00	
Mountainbrook	\$ 800.00	
Murray Hills	\$ 800.00	
Myrtlewood	\$ 800.00	
Nantucket Village	\$ 500.00	
Nautical Green	\$ 750.00	\$1,000.00
Neuse Colony	\$2,000.00	\$1,000.00
Neuse River Village	\$ 500.00	\$ 500.00
New Chartwell	\$ 500.00	
Normandy Glen	\$ 500.00	
Norwood Place	\$1,333.00	
Oak Harbor (excludes Knox Realty)	\$1,750.00	
Oak Hill	\$ 800.00	
Oakley Park	\$ 800.00	
Old Cape Cod	\$ 750.00	\$1,000.00
Old Providence	\$ 800.00	
Papillon, Phase 2	\$ 500.00	
Paradise Point	\$ 800.00	
Park South Station	\$ 700.00	
Parkway Crossing	\$ 700.00	
Parkwood	\$ 500.00	

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE - SEWER</u></b>
Peabody Forest	\$ 500.00	
Pearman Estates	\$ 500.00	
Pepper Ridge	\$ 500.00	
Pheasant Ridge	\$ 500.00	
Phillips Landing	\$ 800.00	
Piedmont Estates	\$ 500.00	
Pilot's Ridge, Lots 22 through 29	\$1,000.00	
Pine Knolls	\$ 500.00	
Pine Meadows	\$ 500.00	
Pineview	\$ 500.00	
Pinewood Acres	\$ 800.00	
Pleasant Gardens	\$ 500.00	
Polk's Landing	\$ 500.00	
Polk's Trail	\$ 500.00	
Ponderosa	\$ 500.00	
Providence Acres	\$ 800.00	
Providence North	\$ 500.00	
Quail Meadows	\$ 500.00	
Quail Oaks	\$ 500.00	
Quail's Nest	\$ 500.00	
Raintree	\$ 800.00	
Red Mountain	\$ 500.00	
Regency Village	\$ 500.00	
Richwood Acres	\$ 500.00	
Ridgecrest	\$ 500.00	
Ridgeview Park	\$ 800.00	
Ridgeway Courts	\$ 500.00	
Ridgewood	\$ 500.00	
River Oaks (Guilford County)	\$ 500.00	
River Oaks (New Hanover County)	\$ 750.00	
River Oaks, Phase 8 (New Hanover County)	\$1,000.00	\$2,500.00
River Park	\$1,500.00	\$10.00 / gpd of capacity
River Point at Beau Rivage	\$ 969.00	\$ 822.00
River Ridge Run	\$ 500.00	
River Run	\$ 500.00	

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE - SEWER</u></b>
Riverside at Oak Ridge	\$ 500.00	
Riverton Place	\$ 800.00	
Riverview	\$ 500.00	
Riverwoods	\$ 800.00	
Robinfield	\$ 800.00	
Roland Place	\$ 750.00	\$1,000.00
Roland Place extension	\$1,000.00	
Rolling Hills	\$ 500.00	
Rolling Meadows	\$ 800.00	
Round Tree Ridge		\$2,500.00
Rustic Trials	\$ 800.00	
Saddlewood	\$ 800.00	
Sailors Lair	\$1,000.00	\$2,500.00
Sanford's Creek	\$ 500.00	
Seabreeze	\$ 750.00	\$1,000.00
Seabreeze Sound Extension	\$1,000.00	\$2,500.00
Seagate I	\$ 500.00	
Seagate IV	\$ 500.00	
Sedgley Abby	\$ 750.00	\$1,000.00
Shade Tree	\$ 500.00	
Shadow Oaks	\$ 500.00	
Shangri-la (Catawba)	\$ 800.00	
Shangri-la (Gaston)	\$ 800.00	
Shaw Hill Estates	\$ 500.00	
Sherwood Forest (Catawba County)	\$ 500.00	
Shiloh	\$ 500.00	
Shipwatch	\$ 750.00	\$1,000.00
Silverstone	\$ 800.00	
Skyland Drive	\$ 800.00	
Smoke Ridge	\$ 500.00	
Smokerise	\$ 500.00	
Snow Creek	\$ 500.00	
Sopanos Point	\$ 750.00	\$1,000.00
South Bourne	\$ 500.00	
South Forest	\$ 800.00	
South Fork (Catawba)	\$ 500.00	
South Fork (Gaston)	\$ 800.00	
South Hill	\$ 800.00	

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE - SEWER</u></b>
South Hill Estates	\$ 800.00	
South Point Landing	\$ 800.00	
Southampton	\$ 800.00	
Southgate	\$ 800.00	
Southwood (Wake)	\$ 800.00	
Spencer Road Acres	\$ 800.00	
Spinnaker Bay	\$ 800.00	
Spinnaker Pointe	\$1,000.00	
Spring Hill/Springdale	\$ 800.00	
Spring Shores	\$ 800.00	
Spring Valley	\$ 800.00	
Springdale (Guilford)	\$ 500.00	
Springfield Estates	\$ 500.00	
Springhaven (Wake)	\$ 800.00	
Sprinkle	\$ 500.00	
Stanleystone Estates	\$1,000.00	
Starland Park	\$ 800.00	
Sterlingshire	\$ 500.00	
Stonehouse Acres	\$1,000.00	
Stonebridge	\$ 500.00	
Stoneridge	\$ 500.00	
Stoney Brook	\$ 800.00	
Sturbridge Village	\$ 500.00	
Summerfield Farms	\$ 500.00	
Summerwind	\$ 500.00	
Sunset Bay (3 digit lot #s on Roundstone Road)	\$2,500.00	
Sunset Hills	\$ 800.00	
Sunset Park	\$ 800.00	
Swiss Pine Lake	\$ 800.00	
Tablerock	\$ 800.00	
Telfair Forrest	\$ 750.00	\$1,000.00
The Cape, Section A	\$ 750.00	\$1,000.00
The Cape, Section B	\$ 750.00	\$1,000.00
The Gardens at Flowers	\$ 850.00	\$1,000.00
The Reserve at Falls Lake, Phases 1, 2, 3	\$ 500.00	
The Sanctuary	\$ 750.00	\$1,000.00
The Village at Motts Landing, Phases 1&2	\$1,000.00	
The Vineyards	\$ 500.00	

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE - SEWER</u></b>
Thornton Ridge	\$ 400.00	
Tidelands on the River	\$1,000.00	
Timberlake	\$ 400.00	
Timberline	\$ 500.00	
Timberline Shores	\$1,000.00	
Tralee Place	\$1,000.00	
Triple Lakes	\$ 500.00	
Tuxedo	\$ 800.00	
Twelve Oaks	\$ 500.00	
Twelve Oaks Cadet Drive Extension	\$1,700.00	
Twin Creek	\$3,000.00	
Twin Oaks	\$ 500.00	
Valley Acres	\$ 500.00	
Valley Dale	\$ 500.00	
Village Woods	\$ 500.00	
Walker Estates	\$ 500.00	
Waterford		\$2,500.00
Watts	\$ 800.00	
Weatherstone	\$ 350.00	
Wellington	\$ 500.00	
Wesley Acres	\$ 800.00	
West View at River Oaks	\$1,000.00	\$2,500.00
Westfall – 100 foot wide lots (47 lots)		\$2,750.00
Westfall – 80 foot wide lots (60 lots)		\$2,565.00
Westfall – 60 foot wide lots (69 lots)		\$2,250.00
Westfall – Estate Lots (64 lots)		\$3,150.00
Westfall – Amenities		\$2,000.00
Westside Hills	\$ 500.00	
Willard Run/San Siro	\$ 500.00	
Willow Creek		\$ 500.00
Willow Glen at Beau Rivage	\$ 500.00	\$ 500.00
Willow Oaks	\$ 800.00	
Wilson Farm	\$ 500.00	
Wimbledon	\$1,500.00	
Winding Forest	\$ 500.00	
Windspray	\$ 750.00	\$1,000.00
Windswept, Phase 1	\$ 750.00	\$1,000.00

<b><u>SYSTEM NAME</u></b>	<b><u>CONNECTION FEE - WATER</u></b>	<b><u>CONNECTION FEE - SEWER</u></b>
Windswept, Phases 2 & 3		\$ 500.00
Windwood Acres	\$ 800.00	
Woodbridge	\$ 500.00	
Woodford (Hawks Ridge)	\$ 500.00	
Woodlake	\$ 800.00	\$ 800.00
Woodlake – Irrigation Meter	\$ 300.00	
Woodland Hills	\$ 500.00	
Woodland Shores	\$1,000.00	
Woodlawn	\$ 800.00	
Woodleigh	\$ 800.00	
Wright Beaver	\$ 500.00	
Yorkwood Park	\$ 800.00	

**AQUA NORTH CAROLINA, INC.  
WATER AND SEWER SYSTEM IMPROVEMENT CHARGES**

**WATER SYSTEM IMPROVEMENT CHARGE**

All Aqua NC water systems except as noted below	0.00% <sup>1/</sup> and <sup>2/</sup>
Water systems in Brookwood and LaGrange service areas	0.00% <sup>1/</sup> and <sup>2/</sup>
Water systems in Fairways and Beau Rivage service areas	0.00% <sup>1/</sup> and <sup>2/</sup>

**SEWER SYSTEM IMPROVEMENT CHARGE**

All Aqua NC sewer systems except as noted below	0.00% <sup>1/</sup> and <sup>3/</sup>
Sewer systems in Fairways and Beau Rivage service areas	0.00% <sup>1/</sup> and <sup>3/</sup>

<sup>1/</sup> Reset to zero pursuant to the Commission's Order in Docket No. W-218, Sub 526.

<sup>2/</sup> Upon approval by further order of the Commission, the Water System Improvement Charge will be applied to the total water utility bill of each customer under the Company's applicable rates and charges.

<sup>3/</sup> Upon approval by further order of the Commission, the Sewer System Improvement Charge will be applied to the total sewer utility bill of each customer under the Company's applicable rates and charges.

**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of  
Application by Aqua North Carolina, Inc., )  
202 MacKenan Court, Cary, North Carolina ) NOTICE TO CUSTOMERS IN  
27511, for Authority to Increase Rates for ) AQUA NORTH CAROLINA  
Water and Sewer Utility Service in All of Its ) SERVICE AREAS  
Service Areas in North Carolina )

NOTICE IS HEREBY GIVEN that the North Carolina Utilities Commission has issued an Order authorizing Aqua North Carolina, Inc. (Aqua NC), to increase its rates for water and sewer utility service in its service areas in North Carolina. The new approved water and sewer rates for Aqua NC customers, excluding the Brookwood and LaGrange service areas in Cumberland and Hoke Counties and the Fairways and Beau Rivage service areas in New Hanover County, are as follows:

**WATER UTILITY SERVICE**

Monthly Metered Service (Residential and Commercial customers)

Base facility charge (zero usage, based on meter size)

<1" meter	\$ 20.70
1" meter	\$ 51.75
1-1/2" meter	\$103.50
2" meter	\$165.60
3" meter	\$310.50
4" meter	\$517.50
6" meter	\$1,035.00

Usage charge, per 1,000 gallons \$ 6.38  
*All service areas unless noted differently below*

**Conservation Pilot Program**  
**Arbor Run, Bayleaf, Merion and Pebble Bay Subdivisions**

Tiered usage charge, per 1,000 gallons (residential)

1 - 4,000 gallons	\$	4.14
4,001 - 8,000 gallons	\$	6.21
8,001 - 15,000 gallons	\$	9.32
15,001+ gallons	\$	12.42

Tiered usage charge, per 1,000 gallons (irrigation meters)

1 - 15,000 gallons	\$	9.32
15,001+ gallons	\$	12.42

Bulk Purchased Water Systems

Monthly base facility charge same as above

Usage charge per 1,000 gallons, where water purchased for resale as shown below:

<u>Service Area</u>	<u>Water Provider</u>	<u>Usage Charge</u>
Twin Creeks	City of Asheville	\$ 4.96
Heather Glen and Highland	City of Belmont	\$14.40
Southpoint Landing	City of Belmont	\$14.40
Park South	City of Charlotte	\$ 2.19
Parkway Crossing	City of Charlotte	\$ 2.19
Springhill / Springdale	City of Concord	\$ 5.42
Hoopers Valley	City of Hendersonville	\$ 3.47
Crystal Creek	City of Hendersonville	\$ 3.47
Rambling Ridge	City of Hendersonville	\$ 3.47
Brookwood	City of Hickory (outside city)	\$ 3.25
Heritage Farms	City of Hickory (inside city)	\$ 3.25
Cedarwood Estates	City of Hickory (inside city)	\$ 3.25
Hill-N-Dale	City of Lincolnton	\$ 9.21
East Shores	City of Morganton	\$ 2.51
Greenfield	City of Mount Airy	\$ 6.69
Bett's Brook	City of Newton	\$ 3.29
Crestwood	Davidson Water, Inc.	\$ 4.76
Lancer Acres	Davidson Water, Inc.	\$ 4.76
Beard Acres	Davidson Water, Inc.	\$ 4.76
Woodlake Development	Harnett County	\$ 2.78
Beechwood Cove	Chatham County	\$ 7.04

<u>Service Area</u>	<u>Water Provider</u>	<u>Usage Charge</u>
Chatham	Chatham County	\$ 7.04
Cole Park Plaza Shopping Center	Chatham County	\$ 9.98
Hidden Valley	Chatham County	\$ 7.04
Polks Landing	Chatham County	\$ 7.04
Chapel Ridge	Town of Pittsboro	\$13.69
Laurel Ridge	Town of Pittsboro	\$13.69
The Parks at Meadowview	Town of Pittsboro	\$13.69
River Hill Heights	Iredell Water Corp.	\$ 3.61
Bedford at Flowers Plantation	Johnston County	\$ 2.66
Bennett Place	Johnston County	\$ 2.66
Chatham	Johnston County	\$ 2.66
Cottages at Evergreen	Johnston County	\$ 2.66
Cottonfield Village	Johnston County	\$ 2.66
Creekside Place	Johnston County	\$ 2.66
Eastlake at Flowers Plantation	Johnston County	\$ 2.66
Evergreen	Johnston County	\$ 2.66
Flowers Crest	Johnston County	\$ 2.66
Flowers Shopping Center	Johnston County	\$ 2.66
Forge Creek	Johnston County	\$ 2.66
Longleaf	Johnston County	\$ 2.66
Magnolia	Johnston County	\$ 2.66
Magnolia Place/Village	Johnston County	\$ 2.66
Mill Creek North	Johnston County	\$ 2.66
Mill Creek West	Johnston County	\$ 2.66
Neuse Colony	Johnston County	\$ 2.66
North Farm	Johnston County	\$ 2.66
North Farm Cottages	Johnston County	\$ 2.66
North Village	Johnston County	\$ 2.66
Parkway Center/Village	Johnston County	\$ 2.66
Peachtree	Johnston County	\$ 2.66
Pineville Club	Johnston County	\$ 2.66
Pineville East	Johnston County	\$ 2.66
Pineville East Cottages/Palmetto Pl.	Johnston County	\$ 2.66
Pineville East Estates	Johnston County	\$ 2.66
Pineville West	Johnston County	\$ 2.66
Plantation Park	Johnston County	\$ 2.66
Plantation Pointe	Johnston County	\$ 2.66
Poplar Woods	Johnston County	\$ 2.66
River Dell East	Johnston County	\$ 2.66
River Dell Townes	Johnston County	\$ 2.66

<u>Service Area</u>	<u>Water Provider</u>	<u>Usage Charge</u>
Riverdell Elementary School	Johnston County	\$ 2.66
Ross Landing	Johnston County	\$ 2.66
South Plantation	Johnston County	\$ 2.66
South Quarter	Johnston County	\$ 2.66
Southgate	Johnston County	\$ 2.66
Summerset Place	Johnston County	\$ 2.66
Sun Ridge Farms	Johnston County	\$ 2.66
Sweetgrass	Johnston County	\$ 2.66
The Gardens at Flowers Plantation	Johnston County	\$ 2.66
The Meadows	Johnston County	\$ 2.66
The Nine	Johnston County	\$ 2.66
The Woodlands	Johnston County	\$ 2.66
Trillium	Johnston County	\$ 2.66
Village at Flowers Plantation	Johnston County	\$ 2.66
Walker Woods	Johnston County	\$ 2.66
Watson's Mill	Johnston County	\$ 2.66
West Ashley	Johnston County	\$ 2.66
Whitfield at Flowers Plantation	Johnston County	\$ 2.66
Wilders Woods and Extension	Johnston County	\$ 2.66
Holly Hills	Town of Forest City	\$ 5.63
Pear Meadows	Town of Fuquay-Varina	\$ 5.18
Swiss Pine Lake	Town of Spruce Pine	\$ 5.96

Monthly Unmetered service (flat rate)

Residential customers	\$ 46.22
Commercial customers (per *REU)	\$ 73.63

\*(REU = Residential Equivalent Unit)

**SEWER UTILITY SERVICE**

Monthly Unmetered Service (flat rate)

All service areas unless noted differently below

Residential customers	\$ 75.38
Commercial customers (per *REU)	\$ 105.53
*(REU = Residential Equivalent Unit)	

STEP system flat rate (Monticello, Holly Brook, Saddleridge) \$ 32.00

Residential and Commercial Monthly Metered Service and all the Park South Station and Parkway Crossing Service Areas (based on metered water usage)

Base facility charge (zero usage, based on water meter size)

All service areas unless noted differently below

<1" meter	\$ 60.43
1" meter	\$ 151.08
1½" meter	\$ 302.15
2" meter	\$ 483.44
3" meter	\$ 906.45
4" meter	\$1,510.75
6" meter	\$3,021.50

Usage charge, per 1,000 gallons \$ 2.99

All service areas unless noted differently below

Carolina Meadows, Inc. will be charged 50% of the sum of all contributory water meter base facility charges, which is currently 186 REUs or 50% of 372 REUs.

Park South Station and Parkway Crossing Service Areas

Base facility charge:	As shown above
Usage charge, per 1,000 gallons	\$ 6.45

Hawthorne Green Apartments, Woodland Farm, and Beaver Farms Subdivision

Base facility charge per REU	\$ 47.94
Usage charge, per 1,000 gallons	\$ 6.75

### IMPACT ON AVERAGE RESIDENTIAL BILL

The impact on the average monthly metered residential bill including the reset of the water and sewer system improvement charge (WSIC and SSIC) is as follows:

	Metered <u>Water</u>	<u>Sewer</u>
Average bill under prior rates	\$49.70	\$72.87 (flat)
Average bill under approved rates	\$52.60	\$75.38 (metered)

The average monthly residential bills are based on the uniform rates for non-purchased water and sewer systems based on an approximate average usage of 5,000 gallons per month. The average residential bills for the bulk purchased water and sewer systems will vary.

#### RATE ADJUSTMENT MECHANISM:

The Commission-authorized WSIC and SSIC rate adjustment mechanisms continue in effect. These charges have been reset to zero in the Docket No. W-218, Sub 526 rate case, but Aqua NC may, under the Rules and Regulations of the Commission, apply for a rate surcharge on November 1, 2020, to become effective January 1, 2021. The WSIC/SSIC mechanisms are designed to recover, between rate case proceedings, the costs associated with investment in certain completed, eligible projects for water and sewer system improvements. The WSIC/SSIC mechanisms are subject to Commission approval and to audit and refund provisions. Any cumulative system improvement charge recovered pursuant to the WSIC/SSIC mechanisms may not exceed 5% of the total annual service revenues approved by the Commission in this general rate case proceeding.

#### CREDIT/REFUNDS DUE TO REDUCTIONS IN CORPORATE FEDERAL AND STATE INCOME TAX RATES:

On December 22, 2017, President Donald J. Trump signed into law the Tax Cuts and Jobs Act (The Tax Act), which among other things, reduced the federal corporate income tax rate from 35% to 21%, effective for taxable years beginning after December 31, 2017. In the previous rate case proceeding, the Commission reduced Aqua NC's revenue requirement to reflect the reduction in the federal corporate income tax rate from 35% to 21%, on the Company's ongoing federal income tax expense.

With respect to excess deferred income taxes (EDIT) resulting from reductions in the corporate federal and state income tax rates, the Commission is requiring that: (a) Aqua NC's Protected Federal EDIT shall continue to be flowed back to customers following the tax normalization rules utilizing the average rate assumption method (ARAM) as required by the rules of the Internal Revenue Service; (b) Aqua NC's Unprotected Federal EDIT shall continue to be returned to ratepayers through a levelized rider; and (c) Aqua NC's State EDIT shall continue to be returned to customers through a levelized rider. The Unprotected Federal EDIT and State EDIT refund riders will expire once the entire balances are appropriately returned to customers by the end of the three-year period that began on December 18, 2018.

Aqua NC will provide the applicable dollar amounts concerning the federal and state EDIT riders (refunds) shown as separate line items on individual customers' monthly bills, along with explanatory information.

ISSUED BY ORDER OF THE COMMISSION.

This the 26th day of October, 2020.

NORTH CAROLINA UTILITIES COMMISSION

A handwritten signature in black ink that reads "Kimberley A. Campbell". The signature is written in a cursive, flowing style.

Kimberley A. Campbell, Chief Clerk



Usage charge per 1,000 gallons, where water purchased for resale as shown below

<u>Service Area</u>	<u>Water Provider</u>	<u>Usage Charge</u>
Kelly Hills	Fayetteville PWC	\$ 2.92
Bretton Woods	Fayetteville PWC	\$ 2.92
Raintree	Fayetteville PWC	\$ 2.92
Colony Village	Fayetteville PWC	\$ 2.92
Windsong	Fayetteville PWC	\$ 2.92
Porter Place	Fayetteville PWC	\$ 2.92
Thornwood	Fayetteville PWC	\$ 2.92
County Walk	Fayetteville PWC	\$ 2.92
Lands Down West	Fayetteville PWC	\$ 2.92
S & L Estates	Fayetteville PWC	\$ 2.92
Tarleton Plantation	Fayetteville PWC	\$ 2.92
Springdale	Fayetteville PWC	\$ 2.92
Ridge Manor	Fayetteville PWC	\$ 2.92
Forest Lake	Fayetteville PWC	\$ 2.92
Arden Forest	Fayetteville PWC	\$ 2.92
Wendemere	Fayetteville PWC	\$ 2.92
Jena-Shane	Fayetteville PWC	\$ 2.92
Stoney Point	Fayetteville PWC	\$ 2.92
Woodland Run	Town of Linden	\$ 5.23

Monthly Unmetered Service/REU (flat rate)

Residential Rate	\$ 37.24
Commercial customers (per *REU)	\$ 52.56
*(REU = Residential Equivalent Unit)	

**IMPACT ON AVERAGE RESIDENTIAL BILL**

The impact on the average monthly metered residential bill including the reset of the WSIC is as follows:

	<u>Water</u>
Average bill under prior rates	\$34.00
Average bill under approved rates	\$38.86

The average monthly residential bills are based on the rates for non-purchased water systems based on an approximate average usage of 5,000 gallons per month. The average residential bills for the bulk purchased water systems will vary.

RATE ADJUSTMENT MECHANISM:

The Commission-authorized WSIC and SSIC rate adjustment mechanisms continue in effect. These charges have been reset to zero in the Docket No. W-218, Sub 526 rate case, but Aqua NC may, under the Rules and Regulations of the Commission, apply for a rate surcharge on November 1, 2020, to become effective January 1, 2021. The WSIC/SSIC mechanisms are designed to recover, between rate case proceedings, the costs associated with investment in certain completed, eligible projects for water and sewer system improvements. The WSIC/SSIC mechanisms are subject to Commission approval and to audit and refund provisions. Any cumulative system improvement charge recovered pursuant to the WSIC/SSIC mechanisms may not exceed 5% of the total annual service revenues approved by the Commission in this general rate case proceeding.

CREDIT/REFUNDS DUE TO REDUCTIONS IN CORPORATE FEDERAL AND STATE INCOME TAX RATES:

On December 22, 2017, President Donald J. Trump signed into law the Tax Cuts and Jobs Act (The Tax Act), which among other things, reduced the federal corporate income tax rate from 35% to 21%, effective for taxable years beginning after December 31, 2017. In the previous rate case proceeding, the Commission reduced Aqua NC's revenue requirement to reflect the reduction in the federal corporate income tax rate from 35% to 21%, on the Company's ongoing federal income tax expense.

With respect to excess deferred income taxes (EDIT) resulting from reductions in the corporate federal and state income tax rates, the Commission is requiring that: (a) Aqua NC's Protected Federal EDIT shall continue to be flowed back to customers following the tax normalization rules utilizing the average rate assumption method (ARAM) as required by the rules of the Internal Revenue Service; (b) Aqua NC's Unprotected Federal EDIT shall continue to be returned to ratepayers through a levelized rider; and (c) Aqua NC's State EDIT shall continue to be returned to customers through a levelized rider. The Unprotected Federal EDIT and State EDIT refund riders will expire once the entire balances are appropriately returned to customers by the end of the three-year period that began on December 18, 2018.

Aqua NC will provide the applicable dollar amounts concerning the federal and state EDIT riders (refunds) shown as separate line items on individual customers' monthly bills, along with explanatory information.

ISSUED BY ORDER OF THE COMMISSION.

This the 26th day of October, 2020.

NORTH CAROLINA UTILITIES COMMISSION

A handwritten signature in black ink that reads "Kimberley A. Campbell". The signature is written in a cursive style with a large initial 'K'.

Kimberley A. Campbell, Chief Clerk



**SEWER UTILITY SERVICE**

Monthly Metered Service (Residential and Commercial customers)

Base facility charge (zero usage, based on water meter size)

<1" meter	\$ 46.49
1" meter	\$ 116.23
1 1/2" meter	\$ 232.45
2" meter	\$ 371.92
3" meter	\$ 697.35
4" meter	\$1,162.25
6" meter	\$2,324.50

Usage charge, per 1,000 gallons \$ 1.83

Monthly Unmetered Service (flat rate)

Residential customers	\$ 54.11
Commercial customers (per *REU)	\$ 73.25

\* (REU = Residential Equivalent Unit)

**IMPACT ON AVERAGE RESIDENTIAL BILL**

The impact on the average monthly metered residential bill including the reset of the WSIC and SSIC is as follows:

	Metered <u>Water</u>	<u>Sewer</u>
Average bill under prior rates	\$18.26	\$58.60 (flat)
Average bill under approved rates	\$18.64	\$58.39 (metered)

The average monthly residential bills listed above are based on an approximate average usage of 6,500 gallons per month.

RATE ADJUSTMENT MECHANISM:

The Commission-authorized WSIC and SSIC rate adjustment mechanisms continue in effect. These charges have been reset to zero in the Docket No. W-218, Sub 526 rate case, but Aqua NC may, under the Rules and Regulations of the Commission, apply for a rate surcharge on November 1, 2020, to become effective January 1, 2021. The WSIC/SSIC mechanisms are designed to recover, between rate case proceedings, the costs associated with investment in certain completed, eligible projects for water and sewer system improvements. The WSIC/SSIC mechanisms are subject to Commission approval and to audit and refund provisions. Any cumulative system improvement charge recovered pursuant to the WSIC/SSIC mechanisms may not exceed 5% of the total annual service revenues approved by the Commission in this general rate case proceeding.

CREDIT/REFUNDS DUE TO REDUCTIONS IN CORPORATE FEDERAL AND STATE INCOME TAX RATES:

On December 22, 2017, President Donald J. Trump signed into law the Tax Cuts and Jobs Act (The Tax Act), which among other things, reduced the federal corporate income tax rate from 35% to 21%, effective for taxable years beginning after December 31, 2017. In the previous rate case proceeding, the Commission reduced Aqua NC's revenue requirement to reflect the reduction in the federal corporate income tax rate from 35% to 21%, on the Company's ongoing federal income tax expense.

With respect to excess deferred income taxes (EDIT) resulting from reductions in the corporate federal and state income tax rates, the Commission is requiring that: (a) Aqua NC's Protected Federal EDIT shall continue to be flowed back to customers following the tax normalization rules utilizing the average rate assumption method (ARAM) as required by the rules of the Internal Revenue Service; (b) Aqua NC's Unprotected Federal EDIT shall continue to be returned to ratepayers through a levelized rider; and (c) Aqua NC's State EDIT shall continue to be returned to customers through a levelized rider. The Unprotected Federal EDIT and State EDIT refund riders will expire once the entire balances are appropriately returned to customers by the end of the three-year period that began on December 18, 2018.

Aqua NC will provide the applicable dollar amounts concerning the federal and state EDIT riders (refunds) shown as separate line items on individual customers' monthly bills, along with explanatory information.

ISSUED BY ORDER OF THE COMMISSION.

This the 26th day of October, 2020.

NORTH CAROLINA UTILITIES COMMISSION

A handwritten signature in black ink that reads "Kimberley A. Campbell". The signature is written in a cursive style with a large initial 'K'.

Kimberley A. Campbell, Chief Clerk

CERTIFICATE OF SERVICE

I, \_\_\_\_\_, mailed with sufficient postage or hand delivered to all affected customers the attached Notices to Customers issued by the North Carolina Utilities Commission in Docket No. W-218, Sub 526, and the Notices were mailed or hand delivered by the date specified in the Order.

This the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

By: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Name of Utility Company

The above named Applicant, \_\_\_\_\_, personally appeared before me this day and, being first duly sworn, says that the required Notices to Customers were mailed or hand delivered to all affected customers, as required by the Commission Order dated \_\_\_\_\_ in Docket No. W-218, Sub 526.

Witness my hand and notarial seal, this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
Printed or Typed Name

(SEAL) My Commission Expires: \_\_\_\_\_  
Date