SANFORD LAW OFFICE, PLLC
Jo Anne Sanford, Attorney at Law

August 17, 2020

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

Via Electronic Filing

Re: Aqua North Carolina, Inc. – Application for General Rate Increase
Docket No. W-218, Sub 526
Proposed Order - Aqua North Carolina, Inc.

Dear Ms. Campbell:

Attached please find Aqua North Carolina, Inc.'s Proposed Order in this case. In accordance with Commission rule, we will file a Word version with the Clerk.

At the close of the evidentiary hearing, Presiding Commissioner Brown-Bland requested on behalf of the Commission "…that Aqua include with its proposed order 'Schedule of Rates' appendices that state its requested rates for each of the five rate entities." Aqua has responded to that request herein by submitting Appendices A-1 and A-2, along with the Proposed Order.

Please note that Appendix A-1 is a Schedule of Rates which includes the Company's proposed comprehensive rate design including the conservation pilot program. Appendix A-2 is a Schedule of Rates which includes the Company's proposed comprehensive rate design excluding the conservation pilot program. Both Rate Schedules have been attached to Aqua NC's Proposed Order to ensure that the Commission has the necessary Rate Schedules to implement its final decision on the conservation pilot program.

As always, thank you and your staff for your assistance; please feel free to contact me if there are any questions or suggestions.

Sincerely,

Electronically Submitted
/s/Jo Anne Sanford
State Bar No. 6831
Attorney for Aqua North Carolina, Inc.

c: Parties of Record

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	)	AQUA NORTH CAROLINA, INC.'S PROPOSED ORDER APPROVING PARTIAL SETTLEMENT AGREEMENT AND STIPULATION, 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 (Form W-1).

The Commission issued its Order Establishing General Rate Case and Suspending Rates on January 21, 2020. This 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 G.S. 62-20.

On May 12, 2020, the Public Staff filed a motion for extension of time to file its testimony from May 19, 2020, until 5:00 p.m. on May 26, 2020, with the exception of the testimony of Public Staff witness John R. Hinton. On May 14, 2020, the Commission issued an order granting the Public Staff's motion. Pursuant to the Commission's order, the deadline for the Company to file its rebuttal testimony was extended to June 12, 2020, with the exception of the rebuttal testimony of Company witness Dylan W. D'Ascendis.

On May 19, 2020, the Public Staff filed the testimony of Public Staff witness Hinton.

On May 21, 2020, Aqua NC filed the revised exhibits to the direct testimony of its witnesses Shannon Becker and Edward Thill.

On May 26, 2020, the Public Staff filed the testimony of its witnesses Michelle M. Boswell, Lindsay Darden, Lynn Feasel, D. Michael Franklin, Windley E. Henry, and Charles M. Junis.

On June 2, 2020, Aqua NC filed the rebuttal testimony of Aqua NC 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 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, Joe Pearce, George Kunkel, and Edward Thill.

Also, on June 12, 2020, Aqua NC filed a motion for an extension of time until 12:00 p.m., on June 13, 2020, to file the joint rebuttal testimony and exhibits of its witnesses Becker and Pearce.

On June 13, 2020, Aqua NC filed the joint rebuttal testimony and exhibits of its witnesses Becker and Pearce.[1]

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.

[1] Because June 13, 2020, fell on a Saturday, when the Chief Clerk's Office was closed, the joint rebuttal testimony of Aqua NC's witnesses Becker and Pearce was not marked filed by the Chief Clerk's Office until June 15, 2020, the next business day following June 13, 2020.

On June 16, 2020, the Commission entered an Order Granting Extension of Time to File Rebuttal Testimony Nunc Pro Tunc, thereby allowing Aqua NC's motion for an extension of time to 12:00 p.m., on June 13, 2020, to file the joint rebuttal testimony and exhibits of witnesses Becker and Pearce.

Also, on June 16, 2020, the Public Staff and the Attorney General's Office filed a joint response to Aqua NC's June 11, 2020 Petition addressing 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 in Commission Hearing Room 2115, Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina, though, due to the State of Emergency relating to COVID-19, promptly recessed the hearing to resume on July 6, 2020, at 1:30 p.m., for the purpose of receiving expert witness testimony by virtual means using the WebEx electronic platform.

On June 23, 2020, the Commission issued an order denying use of a revenue deferral mechanism. The order further approved Aqua NC's financial undertaking associated with institution of partial, temporary rates under bond and approved the Company's Notices to Customers, noting that the choice to exercise the remedy provided by G.S. 62-135 belongs to the Company and is not determined by the Commission, and finding that Aqua NC's motion satisfied the statutory requirements necessary to place new rates into effect on a partial, temporary basis, subject to refund with interest at a rate of 10% per annum, effective July 30, 2020.

On July 1, 2020, 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 it previously requested and was authorized in the Commission's June 23, 2020 Order. Also, on July 1, 2020, Aqua NC filed its executed Undertaking to Refund pursuant to 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 unsettled 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 Unsettled Issues).

On July 2, 2020, the Commission issued its Order Approving Revised Customer Notices and Accepting Financial Undertaking, to approve Aqua NC's Undertaking 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, including 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.

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 by any party or the Commission. Witnesses Becker, Berger, Gearhart, and Thill participated and were 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 stipulated into the record without examination of the sponsoring witnesses. Witnesses Franklin, Henry, and Junis were available for examination by the parties and the Commission. The hearing was recessed on July 13, 2020, to be reconvened on August 3, 2020, for public witness hearings conducted by virtual means using the WebEx electronic platform.

On July 15, 2020, at the Commission's request, Aqua NC filed its Confidential Late-Filed Becker Direct Exhibit 4.

On July 16, 2020, the Commission issued its Notice of Due Date for Proposed Orders and/or Briefs, requiring the parties to file proposed orders and/or briefs with the Commission no later than August 17, 2020.

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 the three preceding Aqua NC rate cases.

On July 20, 2020, the Public Staff filed its Late-Filed Exhibit 2 with responses to Commissioner Questions of Public Staff witness Charles M. Junis.

On July 27, 2020, Aqua NC filed a Late-Filed Exhibit with responses to Commissioner questions.

On August 3, 2020, at 1:30 p.m., the first public witness hearing began by virtual means using the WebEx electronic platform. Thirteen Company customers testified as public witnesses at the first public witness hearing.

On August 3, 2020, at 6:30 p.m., the second public witness hearing began by virtual means using the WebEx electronic platform. Eleven Company customers testified as public witnesses at the second public witness hearing.

All late-filed exhibits were filed by the parties as requested by the Commission during the evidentiary hearing. No objections were raised to the admission into evidence of any such late-filed exhibits and, therefore, the Commission hereby accepts such exhibits into the record.

On August 14, 2020, Aqua NC and the Public Staff filed a Joint Motion for Approval of an Order Revising a Portion of the Filing Schedule in this docket whereby the Commission was requested to enter an Order ruling that (a) the Proposed Orders due on August 17, 2020, shall in all ways be complete, except for issues related to the public hearings, including the issue of customer service/reporting requirements; (b) Aqua shall file its response to customer concerns, as expressed at the August 3, 2020 public hearings, on August 24, 2020, as previously ordered; (c) the Public Staff shall file its verified response by September 4, 2020, as previously ordered; (d) Aqua shall have until September 11, 2020, to either file a response to the Public Staff's verified response or to notify the Commission and all parties that it has none; and (e) the parties shall have until September 25, 2020, to file Supplemental Proposed Orders addressing issues related to the customer hearings, including customer service/reporting requirements. The Joint Motion stated that the Attorney General had been notified of this request and does not oppose it.

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

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 Becker, Thill, Gearhart, Pearce, Berger, Hanley, Kunkel, and D'Ascendis, including the Company's late-filed exhibits; the testimony and exhibits of Public Staff witnesses Henry, Feasel, Boswell, Hinton, Darden, Franklin, and Junis, including the Public Staff's late-filed exhibits; and the entire record in this proceeding, the Commission now makes the following

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) of Bryn Mawr, Pennsylvania. The Company's

state headquarters are located in Cary, North Carolina. Aqua NC owns and operates 741 water systems consisting of more than 1,400 wells along with 59 wastewater systems and 203 collection systems across 51 counties in North Carolina. The mean customer count of Aqua NC's more than 740 water systems is 110, while the median customer count per sewer system is 48. At the time the Company filed its Rate Case Application, Aqua NC served approximately 78,739 water customers and approximately 17,940 wastewater customers.

2. Aqua NC is properly before the Commission pursuant to Chapter 62 of the General Statutes of North Carolina seeking a determination of the justness and reasonableness of its proposed rates and charges for its water and sewer utility operations.

3. The test period for this rate case is the 12-month period of time ended 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 evidentiary hearing on July 13, 2020.

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

5. Aqua NC's last general rate case was decided by Commission Order (Sub 497 Rate Case Order) entered on December 18, 2018, in Docket No. W-218, Sub 497. Aqua NC's present rates for water and sewer service in all of the

Company’s service areas have been in effect since January 1, 2020, 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.

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 retail customers of $6,819,722 along with other relief, including cost deferrals, changes to its rate design, a conservation pilot program, and a consumption adjustment mechanism (CAM). The Application was based upon a requested rate of return on common equity of 10.1%, an embedded long-term debt cost of 4.25%, and a capital structure of 50% common equity and 50% 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 (Stipulation) in this docket which resolved some of the disputed issues between the Stipulating Parties pursuant to 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 that were not resolved by the Stipulation are sometimes referred to collectively herein as the Unresolved Issues, and they include Aqua’s proposed conservation pilot program; rate design;

customer service/water quality reporting requirements; and the in-service dates of plant (UPIS) and the Company's unitization practices and policies.

The Unresolved Issues, except for a final decision on customer service/water quality reporting requirements, are addressed in this Order.

8. The Partial Settlement Agreement and Stipulation is the product of the give-and-take 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 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 settlement regarding those issues is simply a settlement of disputed issues as between the parties, 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.

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

12. 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 equity of 9.40%, to a capital structure consisting of 50.00% long-term debt and 50.00% equity.

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

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

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

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

17. The rate increase approved in this case, which includes the stipulated rate of return on 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.

18. The stipulated rate of return on 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.

19. The stipulated 9.40% rate of return on equity and the 50.00% equity capital structure approved by the Commission in this case will result in a cost of capital that is as low as reasonably possible. They appropriately balance Aqua NC's need to obtain equity and debt financing with the ratepayers' need to pay the lowest possible rates.

20. With respect to the foregoing findings of fact regarding the appropriate overall rate of return on rate base and allowed rate of return on common equity for use in this proceeding, the Commission makes the following more specific findings:

a) The overall rate of return on rate base and allowed rate of return on common equity underlying Aqua NC's current base rates are 7.165% and 9.70%, respectively.

b) Aqua NC's current base rates became effective for service rendered on and after December 18, 2018, and have been in effect since that date.

c) In its Application, Aqua NC sought approval for rates which were based on an overall rate of return on rate base of 7.175% and an allowed rate of return on common equity of 10.10%.

d) The Public Staff's filed position in the case, submitted by Staff witness Hinton, argued for rates based on an overall rate of return on rate base of

6.575% and an allowed rate of return on common equity of 8.90% if Aqua had a CAM and 9.00% if the Company did not have a CAM.

e) As set forth in the Stipulation, the Stipulating Parties seek approval of an overall rate of return on rate base of 6.81% and an allowed rate of return on common equity of 9.40%.

f) The reduction in overall rate of return on rate base and rate of return on common equity from both Aqua NC's existing base rates and the Application, as reflected in the Stipulation, is a substantial economic benefit to Aqua NC's customers.

g) The stipulated rate of return on common equity of 9.40% presents for decision the first determination the Commission will make in a major rate case that has been heard during the pendency of the Coronavirus pandemic of 2020.

h) The impact of the pandemic has influenced many factors in the case and is included in the consideration to settle the return of equity in this case, as well as the Company's willingness to settle at the rates embodied in the Stipulation.

i) The stipulated overall rate of return on rate base of 6.81% and rate of return on common equity of 9.40% are supported by competent, material, and substantial evidence.

j) The continuous provision of safe, adequate, and reliable water and wastewater service by Aqua NC is an obligation to customers and is essential to the support of individuals, businesses, and jobs, and to the maintenance of a healthy environment.

k) Regulated utilities, such as Aqua NC, are capital intensive industries with the obligation to invest reasonably and prudently to meet the needs of customers, in compliance with environmental and public health requirements.

l) The ratemaking statutes and rules, arising out of Chapter 62 of the North Carolina General Statutes, require that rates must be set for a regulated utility, such as Aqua NC, which allow it to recover reasonable and prudent costs of operation, plus have an opportunity---under sound management---to recover a reasonable return on that investment.

m) The capital structure and rates of return on rate base and common equity set forth in the Stipulation result in a cost of capital which appropriately balances Aqua NC's interest in maintaining both its credit ratings and its ability to obtain equity financing on reasonable terms, and its customers' interest in receiving water and wastewater service at the lowest possible rate.

Acceptance of Stipulation

21. Based upon all of the evidence in the record, including consideration of the public witness testimony[2] and the evidence from the AGO, who has not joined the Stipulation, the provisions of the Stipulation are just and reasonable to

[2] The balance of the customer service/reporting requirement evidence is to be filed by September 11, 2020 and the balance of the Proposed Orders, pertaining to those issues, will be filed by September 25, 2020, subject to scheduling request by the Public Staff and Aqua NC, filed on August 13, 2020.

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.

Rate Case Contested Issues - "Unresolved Issues"

Rate Design and Average Consumption (Excluding Conservation Pilot Program)

22. Short-term fixed expenses account for 83% (or higher) of Aqua NC's expenses for wastewater service and 89% (or higher) for water service.

23. Aqua NC's customer water usage habits are changing and the Company's average per-customer consumption is declining[3] 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.

24. The Commission favors and encourages development of utility rate design proposals that may better achieve utility revenue sufficiency and stability while also sending appropriate efficiency and conservation signals to consumers.

25. In its Rate Case Application, Aqua NC initially proposed use of an adjustment for consumption in development of the Company's pro forma usage

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[3] See Thill Direct Exhibit 1. The three-year average consumption numbers set forth on that exhibit indicate that, for the periods from 2011 – 2019, average consumption for Aqua NC's consolidated operations declined in all of the years but one (2016) and that the Company's compounded annual growth rate declined during that period by -1.54%. The exhibit further indicates that the compounded annual growth rates during that same period for the Company's three Rate Divisions also declined; i.e., -1.38% for Aqua Uniform Water; -2.24% for Brookwood Water; and -1.60% for Fairways Water.

billing determinants. More specifically, Aqua NC applied a conservation normalization factor to the three-year average consumption figures for each of the Company's three water rate divisions. The Company's proposed conservation normalization factor seeks to correct the three-year consumption average by rolling the experience to levels better reflecting those at the end of the test year. Aqua NC asserted 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.

26. Paragraph DD of the Stipulation recites that, as a matter of settlement, Aqua NC accepted the Public Staff's proposed adjustment to service revenues and that the Company withdrew its application for a conservation normalization factor.

27. In its Rate Case Application, Aqua NC also proposed implementation of a consumption adjustment mechanism or CAM for approval by the Commission pursuant to G.S. 62-133.12A. The CAM was initially proposed by Aqua NC to address the challenges of utilizing a persistently declining historic consumption pattern and address potential swings in average customer consumption. Aqua NC supported legislation which 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 G.S. 62-133.12A to 19 Article 7 of Chapter 62 of the General Statutes. This

mechanism 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. It would provide 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.

28. Implementation of a CAM would not accomplish the same purpose as a conservation normalization factor. While both measures seek to address a deficiency in the revenue sufficiency produced by the historical calculation, the CAM does not address revenue stability. The conservation normalization factor intends to more fully collect the revenue authorization in the period of consumption, which helps best match the utility's revenues with associated expenses, and the customer's current rates with the authorized cost of service. The CAM would provide a mechanism to correct any realized deficiency or surplus in the following year. Further, 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.

29. On June 12, 2020, as part of its rebuttal case, the Company withdrew its request for implementation of a consumption adjustment mechanism in this proceeding, electing, instead, to pursue implementation of a CAM in its next general rate case.[4]

[4] Aqua NC witness Thill testified on rebuttal as follows:

> …Aqua appreciates the issuance of the Order in Docket No. W-100, Sub 61, and thanks the Commission for the courtesy of allowing the Company an opportunity to adjust its position in this case. However, the Company elects respectfully to proceed with this case in a timely fashion and has made the decision not to pursue the CAM in

30. 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 Uniform Water Rate Division; 41%/59% for the Brookwood Water Rate Division; and 44%/56% for the Fairways Water Rate Division.

31. In the absence of an approved conservation normalization factor and a CAM, the more volumetric water design proposed by the Public Staff based upon a rate design ratio of 30%/70% is neither reasonable nor appropriate for adoption in this case.

32. It is reasonable and appropriate that Aqua NC's rate design for sewer utility service provided to its residential customers in the Company's Aqua NC Sewer and Fairways Sewer Rate Divisions should continue to be based on monthly flat rate charges, as previously ordered by the Commission in the Company's Sub 497 rate case. In addition, it is reasonable and appropriate for Aqua NC's rate design for wastewater utility service to continue to be provided to its commercial customers based on a metered usage rate design ratio of 35%/65%.

33. In the absence of an approved conservation normalization factor and a CAM, the volumetric metered wastewater rate design proposed by the

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this docket, but rather to incorporate a CAM proposal, developed in light of the Commission's rules, in its next base rate request. As such, Aqua formally withdraws its request to utilize the CAM in this rate case. (Thill Prefiled Rebuttal Testimony, page 63, lines 6 -13)

Public Staff based upon a rate design ratio of 60%/40% is neither reasonable nor appropriate for adoption in this case.

34. The rates and charges included in Appendices A-1 and A-2,[5] attached hereto, are just and reasonable and should be approved.

Conservation Pilot Program

35. 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." (Order at page 2). 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. Those service areas are: The Cape; Arbor Bay; Bayleaf Master System; Merion; and Pebble Bay.[6] 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 appropriate ("sufficient" and "stable") cost recovery.

36. With nearly 11,000 premises included in this pilot, the program covers approximately 13% of the Company's water customers and includes

[5] **NOTE**: Appendix A-1 is a Schedule of Rates which includes the Company's proposed comprehensive rate design including the conservation pilot program. Appendix A-2 is a Schedule of Rates which includes the Company's proposed comprehensive rate design excluding the conservation pilot program. Both Rate Schedules have been attached to Aqua NC's Proposed Order to ensure that the Commission has the necessary Rate Schedules to implement its final decision on the conservation pilot program.

[6] The Cape service area is located in the Company's Fairways Water Rate Division, while the other four service areas are located in the Company's Aqua Uniform Water Rate Division. Thus, the Company actually proposes to conduct two pilot programs in North Carolina.

representation in each of Aqua NC's geographical areas. The five pilot water systems vary significantly in size, consumption volatility, and absolute level of consumption.

37. Aqua NC proposed 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.

38. There are critical assumptions made in the design of Aqua NC's pilot program which may or may not prove valid. This uncertainty adds increased risk to the stability of the Company's revenues, even if sufficiency is ultimately secured by other mechanisms. Implementation of pilot programs in two of the Company's Rate Divisions 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. Aqua NC asserts that it would be imprudent to subject the Company's entire customer base to such a dramatic structural change without first determining the effects of that change on a smaller representative sample of customers.

39. Aqua NC focused its pilot program on water systems which have the greatest opportunity for both conservation and operational relief, while also ensuring that 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 considerations. Aqua NC additionally chose systems

within two separate rate entities for its pilot program and developed separate rate structures which will allow the Company to further assess the actual impact of the differing designs for future implementation. Each of the five pilot water systems is experiencing stress to meet peak demand and could require (potentially near-term) capital investment if conservation is not realized.

40. There are necessarily winners and losers in any change to the pricing structure. The lesser water users will experience an overall reduction in their average monthly bills at the expense of the high-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 high-volume users that fosters the greatest incremental cost. Aqua NC's focus is on providing rate relief for customers whose usage falls within the lower blocks and inducing conservation in those whose usage extends to the higher block levels.

41. 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 80,000+ water connections. Although the Company is confident that other customers irrigate through their primary connections, the Company is not able to impose specific irrigation household rates on households that validly irrigate without a separate meter. Aqua NC's proposed rates assign Block 3 and Block 4 rates for all separate irrigation meter usage; that is, Aqua NC Uniform 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. 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. Although Aqua NC is unable to separately assess irrigation for homes irrigating through their standard household meters, the Company expects that most irrigation would be captured in those same Blocks 3 and 4 and that this structure provides equitable treatment and similar conservation signals to its irrigation customers regardless of the presence or absence of separate irrigation meters.

42. 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. There are 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. The Company's second measure to ensure revenue adequacy 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.[7] Considering the many variables that influence water demand and that this pilot

[7] 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 return on 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 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.

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.

43. It is reasonable and appropriate that (a) customer growth should not be included in the revenue reconciliation computation; (b) consistent with the explicit language of House Bill 529 (Session Law 2019-88) [G.S. 62-133.12A, the CAM statute], the proposed revenue reconciliation calculation should be computed based on "average per customer usage;" (c) implementation of a revenue reconciliation only for the pilot group is in the public interest; and (d) a revenue reconciliation process is integral to the pilot program.

Utility Plant in Service and Plant Unitization

44. On July 18, 2008, Aqua NC, Rayco Utilities, Inc. (Rayco), Fairways Utilities, Inc. (Fairways), Glynnwood Water Systems, Inc. (Glynnwood), Mountain Point Utilities, Inc. (Mountain Point), Willowbrook Utility Company, Inc. (Willowbrook), and Heater Utilities, Inc. (Heater) filed a Joint Application for Merger and Applications for Authority to Increase Rates in nine dockets. Pursuant to the provisions of G.S. 62-111, the seven named public utilities requested approval of the merger of Rayco, Fairways, Glynnwood, Mountain Point, Willowbrook, and

Heater into Aqua NC.[8] The Companies' Application for a General Rate Increase was filed in Docket No. W-218, Sub 274.

45. The Commission entered an Order in Docket No. W-218, Sub 274 on April 8, 2009, granting a general rate increase to Aqua NC (including all of the merged utility companies). By 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.[9]

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.[10]

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.[11]

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[8] The merger was approved by the Commission pursuant to an Order entered in Docket Nos. W-218, Sub 273 *et al.* dated December 5, 2008.

[9] 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.

[10] This provision was incorporated by the Commission as Ordering Paragraph No. 8 of the Sub 274 Rate Case Order.

[11] This provision was incorporated by the Commission as Ordering Paragraph No. 12 of the Sub 274 Rate Case Order.

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.[12]

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:

> 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

[12] This provision was incorporated by the Commission as Ordering Paragraph No. 18 of the Sub 274 Rate Case Order.

> of numerous customer information systems to Banner. The Company has chosen an asset management system called "Power Plant" 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 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[13]

[13] 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

> 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. In its March 31, 2011 filing, Aqua NC stated that the Company's request did not pertain to the annual reporting requirements associated with Aqua NC's embedded cost of debt analysis or the Heater Acquisition Incentive Account, which were required by Decretal Paragraph Nos. 7 and 19, respectively, of the Commission's April 8, 2009 Order.
>
> 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. The annual reporting requirements associated with Aqua NC's embedded cost of debt analysis and the Heater Acquisition Incentive Account, as required by Decretal Paragraph Nos. 7 and 19, respectively, of the Commission's April 8, 2009 Order, remain in effect.

53. Aqua NC has operated under the Power Plant 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

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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].

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.

54. The Public Staff has challenged Aqua NC's unitization practices and policies under Power Plant for some of the Company's utility plant additions in this case and has proposed the recognition of additional accumulated depreciation for those challenged projects. Unitization is defined by Aqua NC as follows:

> Posting or Unitization Date – 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.

55. Aqua NC's long-standing practice and policy on this issue has been that plant additions begin to depreciate on the unitization date; not on the in-service date. This practice and policy is compliant with the Uniform System of Accounts, as required by the Sub 274 Order. The Uniform System of Accounts requires that "Work orders shall be cleared from this account [CWIP] as soon as practicable after completion of the job." This definition avoids the imposition of a bright-line requirement and, instead, gives acknowledgement to the ambiguity that often exists in the practical operation of the utility. This long-standing practice is not new and has been reviewed in the Company's last three preceding rate cases prior to the current case without objection.

56. The Public Staff's position on this issue appears to have evolved, during its examination, to one that would require depreciation to begin on the in-service date of plant additions; not on the unitization date. As defined by Aqua NC, assets are generally considered to be plant in service when "used and useful" or, in other terminology, when complete and in service. Aqua NC defines those terms as follows:

> Completion date – This field is a general indication that an asset is "useful" but is strictly informational as no system action derives from this data. Aqua 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.
>
> In-service date – This field indicates 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", to be discussed later) and terminates any AFUDC calculation.

57. Aqua NC's unitization practices and policies, including when the Company begins to record depreciation on its plant assets, under its Power Plant accounting system have been open and fully transparent. They were designed, in part, to address and resolve the specific accounting issues and deficiencies addressed by the Commission in Aqua NC's Sub 274 Rate Case Order. The Company has made no attempt since implementing its Power Plant accounting system in 2010 to hide or obfuscate its practices and policies with regard to unitization and the recording of depreciation. Nor has Aqua NC taken any action to apply its unitization practices and judgments in a manner designed to produce a "financial windfall" for the Company or to otherwise prejudice its customers.

58. Except to the extent agreed and stipulated to by Aqua NC in this case or in the May 2019 WSIC/SSIC proceeding, no further adjustments to the

Company's accumulated depreciation levels should be made in this or future rate cases for the plant assets herein included in rate base. Any change in the UPIS and unitization practices and policies currently observed by Aqua NC will be implemented on a prospective basis after approval by the Commission.

59. In order that the Commission may fully and finally resolve this issue on a prospective basis, Aqua NC will be required to conduct a comprehensive review of its current procedures and policies for determining when projects are complete, in-service, and booked 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.

Ratemaking and Revenue Requirement Issues

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

61. By its Application, Aqua NC initially requested a total annual revenue increase in its water and sewer rates of $6,819,722, an 11.2% increase over the total revenue level generated by the rates currently in effect for the Company.

62. 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.

63. The appropriate levels of total operating revenues under present rates for use in this proceeding are $39,190,818 for Aqua NC Water operations, $16,457,556 for Aqua NC Sewer operations, $1,249,860 for Fairways Water operations, $2,149,106 for Fairways Sewer operations, and $6,692,049 for Brookwood Water operations, for a total for combined operations of $65,739,389.

64. 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

65. 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:	$98,979,231
Aqua NC Sewer Operations:	$84,910,644
Fairways Water Operations:	$ 8,239,542
Fairways Sewer Operations:	$ 7,928,978
Brookwood Water Operations	$ 8,000,748

66. 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. Unamortized rate case expense from Docket No. W-218, Sub 497 totals

$419,435, and it is reasonable and appropriate for Aqua 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. This amount does not include a return or carrying costs on the unamortized balance.

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

68. It is reasonable and appropriate to use the current state corporate income tax rate of 2.5% and the applicable 21% federal corporate income tax rate to calculate Aqua NC's revenue requirement.

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

	Service Revenues	Other Rev. & Uncollectibles	Total Operating Revenues
Aqua NC Water	$38,546,488	$ 644,330	$39,190,818
Aqua NC Sewer	$16,426,072	$ 31,484	$16,457,556
Fairways Water	$ 1,159,708	$ 90,152	$ 1,249,860
Fairways Sewer	$ 2,152,585	$ -3,479	$ 2,149,106
Brookwood Water	$ 6,433,919	$ 258,130	$ 6,692,049
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.

70. The Commission-approved rates will provide Aqua NC with an increase in its annual level of authorized service revenues through rates and charges approved in this case by $3,446,081, 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	$ 39,190,818
Aqua NC Sewer	$ 16,457,556
Fairway Water	$ 1,249,860
Fairways Sewer	$ 2,149,106
Brookwood Water	$ 6,692,049

Water and Sewer System Improvement Charges

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

72. 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 effective date of this Order.

73. 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.

Schedule of Rates

74. The Schedule of Rates attached hereto for water and sewer utility service is just and reasonable and should be approved.

Overall Conclusions

75. The Partial Settlement Agreement and Stipulation contains the provision that the Stipulating Parties agree that none of the positions, treatments, figures, or other matters reflected in the agreement should have any precedential value, nor should they otherwise be used in any subsequent proceedings before this Commission or any other regulatory body as proof of the matters in issue.

76. The Partial Settlement Agreement and Stipulation contains the provision that the agreements made therein do not bind the Stipulating Parties to the same positions in future proceedings, and the parties reserve the right to take different positions in any future proceedings. The Partial Settlement Agreement and Stipulation also contains the provision that no portion of the Stipulation is binding on the Stipulating Parties unless the entire Stipulation is accepted by the Commission.

WHEREUPON, the Commission reaches the following

CONCLUSIONS

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 1 – 5 (General Matters)

The evidence supporting these findings of fact is contained in the Application, the testimony and exhibits of the Company and Public Staff witnesses, and the Partial Settlement Agreement and Stipulation. These findings of fact are essentially jurisdictional and procedural in nature and are based on uncontested evidence.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 6 - 11
(Rate Case Application and Partial Settlement Agreement and Stipulation)

The evidence supporting these findings of fact is contained in the Partial Settlement Agreement and Stipulation and in the testimony of the Company and Public Staff witnesses. No party filed a formal statement or testimony indicating opposition to the Stipulation. The Stipulation is binding as between Aqua NC and the Public Staff, and conditionally resolves certain specific matters in this case as between those two parties. Through the end of the evidentiary process, the Attorney General neither approved nor overtly 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.

Under 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 weighed 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 693, 703 (1998). Further, "[t]he Commission may even adopt the recommendations or provisions of the nonunanimous stipulate*/on 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 the Attorney General has not voiced any overt opposition thereto. Accordingly, the Commission finds good cause to approve the Partial Settlement Agreement and Stipulation filed by Aqua NC and the Public Staff.

The key aspects of the Stipulation resolved the following revenue requirement issues, as between the Stipulating Parties:[14]

Test Period and Updates

The test period for this rate case is the twelve 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.

Calculation of Revenue Requirement

The Stipulating Parties agree upon the difference in the calculation of the revenue requirement based on Company amounts [Line 2].

Termination of Updates after March 31, 2020 Update Period

The Stipulating Parties agree that Aqua will forego inclusion in rates in this proceeding of 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's actual allocated test year costs for Aqua Corporate Services and Aqua Customer Operations and (2) the Public Staff

[14] Line references are to Exhibit 1 to Settlement Agreement.

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 dollar adjustment on Line 5.

Reallocation of vehicles and accumulated depreciation related thereto

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].

Post Test Year Additions to Accumulated Depreciation

The Company accepts the Public Staff's proposed adjustment to post test year additions to accumulated depreciation [Line 7]. 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. This does not include post test year additions after March 31, 2020.

Accumulated Depreciation Related to Future Customers

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 Related to Vehicle Allocations

The Company accepts the Public Staff's proposed adjustment to accumulated depreciation related to vehicle allocations [Line 9].

Accumulated Depreciation for WSIC/SSIC "In Service" Date

The Company accepts the Public Staff's proposed adjustment to accumulated depreciation for the WSIC/SSIC in service date [Line 10]. 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.

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

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

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 this adjustment. The Company accepted the Public Staff's adjustment, as corrected.

Post Test Year Additions Purchase Acquisition Adjustments (PAA).

The Company accepts the Public Staff's proposed adjustment to post test year additions PAA [Line 13].

Mid-South Growth Related PAA

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

The Company accepts the Public Staff's proposed adjustment to post test year additions accumulated amortization – PAA [Line 15].

Advances for Construction

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

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

The Company accepts the Public Staff's proposed adjustment to ADIT - unamortized rate case expense [Line 18]. This adjustment will be updated for actual and estimated rate case expense through the issuance of the Commission's final order.

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

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 (EDIT)

The Company accepts the Public Staff's proposed adjustment to ADIT - protected EDIT [Line 20].

Customer Deposit Update

The Company accepts the Public Staff's proposed adjustment to update customer deposits to March 31, 2020 [Line 21].

Excess Capacity Ratemaking Adjustment

The Stipulating Parties agree that no excess capacity ratemaking adjustment should be made in this rate case related to Aqua NC's wastewater treatment plants

(WWTPs) which serve the Company's Carolina Meadows, The Legacy, and Westfall service areas [Line 22].

Cash Working Capital

The Company accepts the Public Staff's proposed adjustment to cash working capital [Line 23].

Tank Painting

The Company accepts the Public Staff's adjustment for tank painting [Line 24].

Unamortized Rate Case Expense

The Company accepts the Public Staff's adjustment to unamortized rate case expense [Line 25].

Depreciation Study

The Company accepts the Public Staff's proposed adjustment to depreciation study [Line 26].

Repair Tax Credit

The Company accepts the Public Staff's proposed adjustment to repair tax credit [Line 27].

Johnston County Unamortized Transmission Charge

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

The Stipulating Parties agree with the Public Staff's proposed adjustment related to deferred accounting on post-test year plant additions [Line 30]. Therefore, the Stipulating Parties agree to the ratemaking adjustment shown on Line 30.

Average Tax Accruals

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

The Company accepts the Public Staff's proposed adjustment to service revenues [Line 32]. Further, the Company withdraws its application for a conservation normalization factor.

Late Payment Fees

The Company accepts the Public Staff's proposed adjustment to late payment fees [Line 33]. This adjustment will be updated based on the ongoing level of service revenues approved by the Commission.

Uncollectibles and Abatements

The Company accepts the Public Staff's proposed adjustment to uncollectibles and abatements [Line 34].

Capitalized Labor

The Company accepts the Public Staff's proposed adjustment to remove capitalized labor [Line 35].

Transportation Regular Payroll

The Company accepts the Public Staff's proposed adjustment to add transportation regular payroll [Line 36].

Open Positions and Update to Salaries and Wages

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

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

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 this adjustment. The Company accepted the Public Staff's adjustment, as corrected.

Bonuses Related to Earnings per Share (EPS)

The Public Staff agrees to withdraw its proposed adjustment to state bonuses related to EPS [Line 40]. This is consistent with the Commission's decision in the Sub 497 rate case.

Executive and Board of Directors Compensation, Bonuses and Expenses; Corporate Service and Customer Operation Allocations; Open Positions

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].

With one exception involving Line 42, the Stipulating Parties agree that no further adjustments should be made in this case regarding allocations from Aqua Corporate Services (ACS) and Aqua 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.

Capitalized Pensions and Benefits

The Company accepts the Public Staff’s proposed adjustment to remove capitalized pensions and benefits [Line 43].

Open Positions and Benefits

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

The Company accepts the Public Staff’s proposed adjustment to remove unqualified benefits from Corporate Sundries [Line 46].

Fuel for Production

The Company accepts the Public Staff’s proposed adjustment to fuel for production [Line 47].

Sludge Removal

The Company accepts the Public Staff’s proposed adjustment to sludge removal [Line 48].

Purchased Power

The Company accepts the Public Staff's proposed adjustment to purchased power [Line 49].

Materials and Supplies

The Company accepts the Public Staff's proposed adjustment to materials and supplies [Line 50].

Testing

The Company accepts the Public Staff's proposed adjustment to testing [Line 51].

Contractual Services

The Stipulating Parties agree to an adjustment to contractual services–legal [Line 52];

The Company accepts the Public Staff's adjustment to contractual services – other – pump maintenance [Line 53];

The Company accepts the Public Staff's proposed adjustment to contractual services–other-corporate sundries [Line 54];

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

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.

Regulatory Commission Expense

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.

Capitalized Miscellaneous Expense

The Company accepts the Public Staff's proposed adjustment to remove capitalized miscellaneous expense [Line 58].

Miscellaneous Expenses for Corporate Sundries

The Company accepts the Public Staff's proposed adjustment to remove unqualified miscellaneous expenses for corporate sundries [Line 61].

Annualization and Consumption

The Stipulating Parties agree to an adjustment of $14,150 to annualization and consumption [Line 62].

Contra-OH Allocations

The Company accepts the Public Staff's proposed adjustment to Contra-OH allocations [Line 63].

The Company accepts the Public Staff's proposed adjustment to amortized Excess Deferred Income Taxes (EDIT) [Line 64].

Payroll Taxes

The Company accepts the Public Staff's proposed adjustment to payroll taxes [Line 65]. Payroll tax is subject to change when the salaries allocated from corporate service and ACO are changed and finalized.

Purchased Water Loss

The Stipulating Parties agree to utilize a 15 percent adjustment for allowable purchased water loss in this case [Line 66]. Further, the Stipulating Parties agree to work toward development of a mutually-agreeable standard based upon the methodology for purchased water systems set forth in Aqua's Pearce/Kunkle rebuttal testimony for implementation in the Company's next general rate case, and to report the progress of those discussions in the next case.

Contract Services – Other – Temporary Labor

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

Johnston County Purchased Sewer Rate

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.

Rounding Difference

The Company accepts the Public Staff's proposed adjustment to rounding difference [Line 69].

EVIDENCE AND CONCLUSIONS IN SUPPORT OF FINDINGS OF FACT NOS. 12 – 20
Long-term Debt Cost, Capital Structure and Return on 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 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 Settlement 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 settlement accepted the following (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 return on common equity (ROE) 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 G.S. 62-133.

Recognizing the key importance of the decision on Return on Equity, a comprehensive summary of the evidence supporting the stipulated agreement to a 9.40% ROE follows:

Rate of Return on 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 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 equity to 11.00%, also including adjustments for size and flotation 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 equity of 9.40% is just and reasonable.

Rate of return on 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 other rate of return on equity expert evidence was presented by any party.

In addition to its evaluation of the expert evidence, the Commission must also make findings of fact regarding the impact of changing economic conditions on customers when determining the proper rate of return on equity for a public utility. Cooper I, 366 N.C. at 494, 739 S.E.2d at 548. This was a factor newly announced by the Supreme Court in its Cooper I decision and not previously required by the Commission or any appellate courts as an element that must be considered in connection with the Commission's determination of an appropriate rate of return on equity. The Commission's discussion of the evidence with respect to the findings required by Cooper I is set out in detail in this Order.

Cooper I was the result of the Supreme Court's reversal and remand of the Commission's approval of the agreement regarding the rate of return on equity in a stipulation between the Public Staff and Duke Energy Carolinas, LLC (DEC) in Docket No. E-7, Sub 989. The Commission has had occasion to apply both prongs of Cooper I in subsequent orders, specifically the following:

- Order Granting General Rate Increase, Docket No. E-2, Sub 1023 (May 30, 2013) (2013 DEP Rate Order), which was affirmed by the North Carolina Supreme Court in State ex rel. Utils. Comm'n v. Cooper, 367 N.C. 444, 761 S.E.2d 640 (2014) (Cooper III)[15];

[15] An intervening case, State ex rel. Utils. Comm'n v. Cooper, 367 N.C. 430, 758 S.E.2d 635 (2014) (Cooper II), arose from Dominion North Carolina Power's 2012 rate case and resulted in a remand to the Commission, inasmuch as the Commission's Order in that case predated Cooper I.

- Order on Remand, Docket No. E-7, Sub 989 (Oct. 23, 2013) (DEC Remand Order), which was affirmed by the North Carolina Supreme Court in State ex rel. Utils. Comm'n v. Cooper, 367 N.C. 644, 766 S.E.2d 827 (2014) (Cooper IV);

- Order Granting General Rate Increase, Docket No. E-7, Sub 1026 (Sep. 24, 2013), which was affirmed by the Supreme Court in State ex rel. Utils. Comm'n v. Cooper, 367 N.C. 741, 767 S.E.2d 305 (2015) (Cooper V);

- Order on Remand, Docket No. E-22, Sub 479 (July 23, 2015), which was not appealed to the Supreme Court;

- Order Approving Rate Increase and Cost Deferrals and Revising PJM Regulatory Conditions, Docket No. E-22, Sub 532 (Dec. 22, 2016);

- Order Accepting Stipulation, Deciding Contested Issues and Granting Partial Rate Increase, Docket No. E-2, Sub 1142 (Feb. 23, 2018);
  Order Accepting Stipulation, Deciding Contested Issues, and Requiring Revenue Reduction, Docket No. E-7, Sub 1146 (June 22, 2018); and

- Order Accepting Public Staff Stipulation In Part, Accepting CIGFUR Stipulation, Deciding Contested Issues, and Granting Partial Rate Increase, Docket No. E-22, Sub 562 (February 24, 2020).

In order to give full context to the Commission's decision herein and to elucidate its view of the requirements of the General Statutes as they relate to rate of return on equity, as interpreted by the Supreme Court in Cooper I, the Commission deems it important to provide in this Order an overview of the general principles governing this subject.

Governing Principles in Setting the Rate of Return on Equity

First, there are, as the Commission noted in the 2013 DEP Rate Order, constitutional constraints upon the Commission's rate of return on equity decisions established by the United States Supreme Court decisions in Bluefield Waterworks

& 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):

> 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 return on equity, 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. State ex rel. Utilities Commission v. General Telephone Co. of the Southeast, 281 N.C. 318, 370, 189 S.E.2d 705, 757 (1972). As the Supreme Court held in that case, these factors constitute "the test of a fair rate of return" in Bluefield and Hope. Id. 2013 DEP Rate Order, p. 29.

Second, the rate of return on equity is, in fact, a cost. The return that equity investors require represents the cost to the utility of equity capital. In his dissenting opinion in Missouri ex rel. Southwestern Bell Tel. Co. v. Missouri Pub. Serv. Comm'n, 262 U.S. 276 (1923), Justice Brandeis remarked upon the lack of any functional distinction between the rate of return on equity (which he referred to as a "capital charge") and other items ordinarily viewed as business costs, including operating expenses, depreciation, and taxes:

> Each is a part of the current cost of supplying the service; and each should be met from current income. When the capital charges are for interest on the floating debt paid at the current rate, this is readily seen. But it is no less true of a legal obligation to pay interest on long-term bonds … and it is also true of the economic obligation to pay dividends on stock, preferred or common.

Id. at 306 (Brandeis, J. dissenting) (emphasis added). Similarly, the United States Supreme Court observed in Hope, "From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business … [which] include service on the debt and dividends on the stock." Hope at 603.

Leading academic commentators also define rate of return on equity as the cost of equity capital. Professor Charles Phillips, for example, states that "the term 'cost of capital' may 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), p. 388. Professor Roger Morin approaches the matter from the economist's viewpoint:

> While utilities enjoy varying degrees of monopoly in the sale of public utility services, they must compete with everyone else in the free open market for the input factors of production, whether it be labor, materials, machines, or capital. The prices of these inputs are set in the competitive marketplace by supply and demand, and it is these input prices which are incorporated in the cost of service computation. This is just as true for capital as for any other factor of production. Since utilities must go to the open capital market and sell their securities in competition with every other issuer, there is obviously a market price to pay for the capital they require, for example, the interest on capital debt, or the expected return on equity.
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> * * *
>
> [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 (Public Utilities Reports, Inc. 1984), at pp. 19-21. Professor Morin adds: "The important point is that the prices of debt capital and equity capital are set by supply and demand, and both are influenced by the relationship between the risk and return expected for those securities and the risks expected from the overall menu of available securities." Id. at 20 (emphasis added).

Changing economic circumstances as they impact Aqua NC's customers may affect those customers' ability to afford rate increases. For this reason, customer impact weighs heavily in the overall ratemaking process, including, as set out in detail elsewhere in this Order, the Commission's own decision of an appropriate authorized rate of return on equity. In addition, in the event of a settlement, customer impact no doubt influences the process by which the parties to a rate case decide to settle contested matters and the level of rates achieved by any such settlement.

However, a customer's ability to afford a rate increase has no impact upon the supply of or the demand for capital. The economic forces at work in the competitive capital market determine the cost of capital – and, therefore, the utility's required rate of return on equity.

Third, the Commission is and must always be mindful of the North Carolina Supreme Court's command that the Commission's task is to set rates as low as possible consistent with the dictates of the United States and North Carolina Constitutions. State ex rel. Utils. Comm'n v. Pub. Staff-N. Carolina Utils. Comm'n, 323 N.C. 481, 490, 374 S.E.2d 361, 370 (1988). Further, and echoing the discussion above concerning the fact that rate of return on equity represents the cost of equity capital, the Commission must execute the Supreme Court's command “irrespective of economic conditions in which ratepayers find themselves.” (2013 DEP Rate Order, p. 37.) The Commission noted in that Order:

> The 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 equity when the general body of ratepayers is in a better position to pay than at other times, which would seem to be a logical but misguided corollary to the position the Attorney General advocates on this issue.

Id. Indeed, in Cooper I the Supreme Court emphasized “changing economic conditions” and their impact upon customers. Cooper I, at 548.

Fourth, while there is no specific and discrete numerical basis for quantifying the impact of economic conditions on customers, the impact on customers of changing economic conditions is embedded in the rate of return on equity expert witnesses’ analyses. The Commission noted this in the 2013 DEP Rate Order: “This impact is essentially inherent in the ranges presented by the return on equity expert witnesses, whose testimony plainly recognized economic conditions – through the use of econometric models – as a factor to be considered in setting rates of return.” 2013 DEP Rate Order, p. 38.

Fifth, under long-standing decisions of the North Carolina Supreme Court, the Commission’s subjective judgment is a necessary part of determining the authorized rate of return on equity. State ex rel. Utils. Comm’n v. Pub. Staff, 323 N.C. 481, 490, 374 S.E.2d 361, 369 (1988). As the Commission also noted in the 2013 DEP Rate Order:

Indeed, of all the components of a utility's cost of service that must be determined in the ratemaking process, the appropriate ROE is the one requiring the greatest degree of subjective judgment by the Commission. Setting an ROE for regulatory purposes is not simply a mathematical exercise, despite the quantitative models used by the expert witnesses. As explained in one prominent treatise,

> 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).

2013 DEP Rate Order, pp. 35-36.

Thus, the Commission must exercise its subjective judgment so as to balance two competing rate of return on equity-related factors – the economic conditions facing the Company's customers and the Company's need to attract equity financing in order to continue providing safe and reliable service.

The Supreme Court in Cooper V affirmed the 2013 DEC Rate Order, in which this framework was fully articulated. But to the framework we can add additional factors based upon the Supreme Court's decisions in Cooper III, Cooper IV, and Cooper V. Specifically, the Supreme Court held that nothing in Cooper I requires the Commission to "quantify" the influence of changing economic conditions upon customers (see, e.g., Cooper V, 367 N.C. at 745-46; Cooper IV, 367 N.C. at 650; Cooper III, 367 N.C. at 450), and, indeed, the Supreme Court reiterated that setting the rate of return on equity is a function of the Commission's subjective judgment: "Given th[e] subjectivity ordinarily inherent in the determination of a proper rate of return on common equity, there are inevitably pertinent factors which are properly taken into account but which cannot be quantified with the kind of specificity here demanded by [the appellant]." Cooper

III, 367 N.C. at 450, quoting State ex rel. Utils. Comm'n v. Pub. Staff-North Carolina Utils. Comm'n, 323 N.C. 481, 490 (1988).

Finally, the Supreme Court discussed with approval the Commission's reference to and reliance upon expert witness testimony that used econometric models that the Commission had noted "inherently" contained the effects of changing economic circumstances upon customers, and also discussed with approval the Commission's reference to and reliance upon expert witness testimony correlating the North Carolina economy with the national economy. See, e.g., Cooper V, 367 N.C. at 747; Cooper III, 367 N.C. at 451.

Application of the Governing Principles to the Rate of Return Decision

Evidence from Expert Witnesses on Cost of Equity Capital

Company witness D'Ascendis recommended in his direct testimony a rate of return on 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%. Public Staff witness Hinton recommended a rate of return of equity of 8.90% if a Consumption Adjustment Mechanism (CAM) is approved by the Commission, or 9.00% if a CAM is not approved by the Commission. In his rebuttal testimony, Company witness D'Ascendis amended his recommended cost of equity to increase to 11.00% for Aqua NC.

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
Utility Proxy Group			
Discounted Cash Flow Model	8.81%	9.07%	8.60%
Risk Premium Model	10.12	10.56	9.40
Capital Asset Pricing Model	9.35	10.67	n/a
Cost of Equity Models Applied to			
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 Mechanism	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%

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 (Non-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.[16] 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.

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 a 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-

[16] See Schedule DWD-3, page 1, column 1.

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%.

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.

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%.

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 .64 and a median beta of 0.63.

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 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.

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%.

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%.

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).

Public Staff witness Hinton recommended a common equity cost rate of 8.90%. 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 its final order in the last Aqua NC rate case (Sub 497) that included a 9.70% cost of equity. 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 10 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%. [Citation.] 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.

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 focused on the expected stream of dividends.

Witness Hinton testified that he applied the DCF method to Essential Utilities, Inc. and 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 10 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 1.7% 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%.

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 8.4%, 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 risk premium of 6.05%, and a cost of equity of current estimate of the equity risk premium of equity of 9.40%.

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 equity for Aqua NC is between 8.60% and 9.40%. He concluded that 9.00% with the CAM, or 8.90% without the CAM, is his single best estimate of the Company's cost of common equity.

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.

Witness Hinton testified that his recommended 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% return on 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, Inc. (Essential Utilities). A potential investor cannot purchase Aqua NC stock. All Aqua NC paid in equity capital is infused by Essential Utilities.

In his rebuttal testimony, Aqua NC witness D’Ascendis disagreed with witness Hinton that a 8.90% common equity rate is appropriate for Aqua NC and stated that the Public Staff’s recommendation would not be sufficient to maintain the integrity of presently invested capital and permit the attraction of needed new capital at a reasonable cost in competition with other firms of comparable risk.

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 a previous proceeding involving Aqua NC (Docket No. W-218, Sub 497). According to witness D’Ascendis, both the academic literature and the Commission support the use of multiple models in determining a 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.

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.

Evidence of Impact of Changing Economic Conditions on Customers

As noted above, utility rates must be set within the constitutional constraints made clear by the United States Supreme Court in Bluefield and Hope. 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 a return on equity, the Commission must nonetheless 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. State ex rel. Utils. Comm'n v. General Telephone Co. of the Southeast, 281 N.C. 318, 370, 189 S.E.2d 705 (1972). As the Supreme Court held in that case, these factors constitute "the test of a fair rate of return" in Bluefield and Hope. Id.

Discussion and Conclusions Regarding Evidence Introduced During the Evidentiary Hearing

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 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 testified on economic conditions in North Carolina that he reviewed. 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 Mr. 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.

Evidence Introduced During Public Hearings and Further Conclusions

The Commission's review also includes consideration of the evidence presented during the public hearings by public witnesses, all of whom presently are customers of Aqua NC. The hearings provided 24 witnesses the opportunity to be heard regarding their respective positions on Aqua NC's Application to increase rates. The Commission held two public hearings by virtual means using the WebEx electronic platform, one afternoon and one evening, to receive public testimony from customers in Aqua NC's service territory. The testimony presented at the hearings 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.

Commission's Decision Setting Rate of Return and Approving Rate Increase Takes Into Account and Ameliorates the Impact of Current Economic Conditions on Customers

As noted above, the Commission's duty under G.S. 62-133 is to set rates as low as reasonably possible without impairing the Company's ability to raise the capital needed to provide reliable water and wastewater service and recover its cost of providing service. The Commission is especially mindful of this duty in light of the evidence in this case concerning the impact of current economic conditions on customers, driven in great measure by the pandemic.

Chapter 62 of the North Carolina General Statutes in general, and G.S. 62-133 in particular, set forth an elaborate formula the Commission must employ in establishing rates. The rate of return on cost of property element of the formula in G.S. 62-133(b)(4) is a significant, but not independent one. Each element of the formula must be analyzed to determine the utility's cost of service and revenue requirement. The Commission must make many subjective decisions with respect to each element in the formula in establishing the rates it approves in a general rate case. The Commission must approve accounting and pro forma adjustments to comply with G.S. 62-133(b)(3). The Commission must approve depreciation rates pursuant to G.S. 62-133(b)(1). The decisions the Commission makes in each of these subjective areas have multiple and varied impacts on the decisions it makes elsewhere in establishing rates, such as its decision on rate of return on equity.

Economic conditions existing during the test year, at the time of the public hearings, and at the date of this Commission Order affect not only the ability of Aqua NC's consumers to pay water and wastewater utility rates, but also the ability of Aqua NC to earn the authorized rate of return during the period rates will be in effect. Pursuant to G.S. 62-133, rates in North Carolina are set based on a modified historic test period.[17] A component of cost of service as important as return on investment is test year revenues.[18] The higher the level of test year revenues the lower the need for a rate increase, all else remaining equal. Historically, and in this case, test year revenues are established through resort to regression analysis, using historic rates of revenue growth or decline to determine end of test year revenues.

When costs and expenses grow at a faster pace than revenues during the period when rates will be in effect, the utility will experience a decline in its realized rate of return on investment to a level below its authorized rate of return. Differences exist between the authorized return and the earned (or realized) return. Components of the cost of service must be paid from the rates the utility charges before the equity investors are paid their return on equity. Operating and administrative expenses must be paid, depreciation must be funded, taxes must be paid, and the utility must pay interest on the debt it incurs. To the extent revenues are insufficient to cover the entire cost of service, the shortfall reduces the return to the equity investor, last in line to be paid. When this occurs, the utility's realized, or earned, return is less than the authorized return.

This phenomenon, caused by incurrence of higher costs prior to the implementation of new rates to recover those higher costs, is commonly referred to as regulatory lag. Just as the Commission confronts constitutional and statutory restrictions in making discrete decrements to rate of return on equity to mitigate

[17] G.S. 62-133(c).

[18] G.S. 62-133(b)(3).

the impact of rates on consumers, it also confronts statutory constraints on its ability to adjust test year revenues to mitigate for regulatory lag. However, the WSIC and SSIC legislation G.S. 62-133.12 and Commission Rules R7-39 and R10-26, have somewhat mitigated the regulatory lag for Aqua NC. The Commission, in its expert experience and judgment and based on evidence in the record, is aware of the effects of regulatory lag in the existing economic environment. However, just as the Commission is constrained to address difficult economic times on customers' ability to pay for service by establishing a lower rate of return on equity in isolation from the many subjective determinations that must be made in a general rate case, it likewise does not address the effect of regulatory lag on the Company by establishing a higher rate of return on equity. Instead, in setting the rate of return, the Commission considers both of these negative impacts in its ultimate decision fixing Aqua NC's rates. The Commission keeps all factors affected by current economic conditions in mind in the many subjective decisions it makes in establishing rates. In doing so in the case at hand, the Commission approved the 9.40% rate of return on equity in the context of weighing and balancing numerous factors and making many subjective decisions. When these decisions are viewed as a whole, including the decision to establish the rate of return on 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.

Consumers pay rates, a charge in dollars per 1,000 gallons for the water they consume and a monthly flat rate or volumetric rate for residential wastewater customers. Investors are compensated by earning a return on the capital they invest in the business. Consumers do not pay a rate of return on equity.

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 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.

For example, to the extent the Commission makes downward adjustments to rate base, or disallows test year expenses, or increases test year revenues, or reduces the equity capital structure component, the Commission reduces the rates consumers pay during the future period when rates will be in effect. Because the utility's investors' compensation for the provision of service to consumers takes the form of return on investment, downward adjustments to rate base or disallowances of test year expenses or increases to test year revenues, or reduction in the equity capital structure component, reduce investors' return on investment irrespective of its determination of rate of return on equity.

The rate base, expenses, and revenue adjustments are instances where the Commission makes decisions in each general rate case, including the present case, that influence the Commission's determination on rate of return on equity and cost of service and the revenue requirement. The Commission always endeavors to comply with the North Carolina Supreme Court's requirements that it "fix rates as low as may be reasonably consistent" with U.S. Constitutional requirements irrespective of economic conditions in which ratepayers find themselves. While compliance with these requirements may have been implicit and, the Commission reasonably assumed self-evident as shown above, the Commission makes them explicit in this case to comply with the Supreme Court requirements of Cooper I.

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 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 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 return on equity---stipulated by the Public Staff and Aqua NC and approved by the Commission in this proceeding---appropriately balances the benefits 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 in every case seeks to comply with the North Carolina Supreme Court mandate that the Commission establish rates as low as possible within constitutional limits. The adjustments the Commission approves in this case comply with that mandate. Nearly all of them reduced the requested return on equity and benefit consumers' ability to pay their bills in this economic environment.

<u>Summary and Conclusions on the Rate of Return on Equity</u>

The Commission has carefully evaluated the return on equity testimony of Aqua NC 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 return on 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
Utility Proxy Group			
Discounted Cash Flow Model	8.81%	9.07%	8.60%
Risk Premium Model	10.12	10.56	9.40
Capital Asset Pricing Model	9.35	10.67	n/a
Cost of Equity Models Applied to			
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 Mechanism	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 Mr. 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 return on 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 return on 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 return on 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.[19]

Having determined that the appropriate rate of return on 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

[19] The Commission notes that the Stipulation does not provide any indication as to how Aqua and the Public Staff actually derived their agreed-to 9.40% 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% return on common equity is reasonable and appropriate for adoption in this case.

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 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 6, the RRA Water Advisory publication showing approved return on equity decisions for water utilities across the country from 2014 through 2019, is helpful. According to this exhibit, the average rate of return on equity for water utilities is 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 on for the first quarter of 2020 the average is 9.27%. Thus, the stipulated, Commission-approved return on equity of 9.40% is also consistent with recent authorized returns for water utilities based upon the evidence in this proceeding.

When evidence is considered and weighed by the Commission as discussed hereinabove, the Commission finds and concludes that the reasonable and appropriate return on equity is the stipulated return of 9.40%.

The Commission notes further that its approval of a rate of return on 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 equity at that level. Rather, as North Carolina law requires, setting the rate of return on 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 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. 21
(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 North Carolina Department of Environmental Quality. 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 FINDINGS OF FACT NOS. 22 – 34 (Rate Design and Average Consumption Excluding Conservation Pilot Program)

Summary of Aqua NC Witness Edward Thill's Direct Testimony

Aqua NC witness Edward Thill testified 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). That rate design structure included allocations of base facility charges (BFCs) and volumetric charges for the average water customers as follows: 40%/60% for the Aqua NC Uniform Water Rate Division; 41%/59% for the Brookwood Water Rate Division; and 44%/56% for the Fairways Water Rate Division.

Similarly, witness Thill testified that the Company proposes no modification to the previously-approved fixed/variable structure for its metered and unmetered residential wastewater customers, all of whom currently pay a monthly flat rate charge.

In support of his recommendations regarding the Company's proposed water and wastewater rate design proposals, witness Thill referenced a March 31, 2016 report produced by the Environmental Finance Center (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). Aqua NC witness Thill stated that the EFC Report noted 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 testified that, in determining appropriate rate designs for water and wastewater rates, a balance must be struck that promotes consumption conservation while also providing the Company with a reasonable opportunity to earn its authorized return on equity. For this reason, witness Thill stated 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.

Witness Thill then described and discussed 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 discussed, 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 testified 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 testified that Aqua NC included an adjustment for consumption in development of the Company's pro forma usage billing determinants. More specifically, witness Thill stated 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. The three-year average advocated by the Public Staff in Aqua NC's North Carolina water and wastewater ratemaking accomplishes a smoothing of historic year-to-year consumption patterns impacted by weather. 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 testified 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. He then gave an example to illustrate his point.

In describing how the lack of a conservation normalization factor affects Company revenue, witness Thill testified that the current approach overstates consumption (by understating the reality of the declining trend in consumption), thereby undermining the integrity of the ratemaking formula. That 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 return. Witness Thill then provided an illustration to demonstrate his point; but also stating 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. 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 stated that his illustration supported 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., mid-point of the three-year average). This updated concept is consistent with similar traditional efforts to utilize the full customer population at that same date.

Witness Thill then described how the Company's proposed conservation normalization factor was computed and applied. Witness Thill further testified 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 testified that implementation of a consumption adjustment mechanism or CAM would not accomplish the same purpose as a conservation normalization factor. Witness Thill stated 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. 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. The CAM provides a mechanism to correct any realized deficiency or surplus in the following year. Further, 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.

Witness Thill testified that the Company's proposed base charges and volumetric rates were developed so that, when applied to the pro forma billing determinants, the rates would result in an expected revenue amount that matched the applied-for revenue requirement within an acceptable margin of less than one quarter of one percent.

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

In response to cross-examination questions posed by Public Staff Attorney William Grantmyre (Tr. Vol. 4, pages 57 - 82), Aqua NC witness Thill testified that the Company serves approximately 9,002 wastewater customers who have Aqua NC water meters and approximately 6,673 wastewater customers who do not have Aqua NC water meters; that if Aqua NC adds a new customer on an existing utility system without capital expenditures, almost all of the new revenues are going to the Company's bottom line, assuming they don't create a tipping point for capital expenditures; that he would not say that a flat sewer rate promotes conservation; that column 6 of Thill Direct Exhibit 4 (headed Change in 3-Yr Avg) has consistently shown a negative trend; that a one percent decline in the variable revenues of the Company has real dollar impact in the hundreds of thousands of dollars; that the Company's revenues would be "better protected" with a CAM; and that the Company's proposed revenue reconciliation for its proposed conservation pilot program is "conceptually similar" to a CAM.

On redirect (Tr. Vol. 4, pages 82 – 91), Aqua NC witness Thill testified as to his understanding of why the Company elected to withdraw its request for approval of a CAM in this case. With regard to the Commission's recent CAM rulemaking order, witness Thill stated that the Commission cited the specific language of the legislation, which talks about average per-customer use, as opposed to total revenue, which has been the position of the Public Staff. Witness Thill also noted that the Public Staff is opposed to approval of both the CAM and the Conservation Pilot Program (including the revenue reconciliation measured on average per-customer use) as proposed by the Company.

Regarding the Company's proposed rate design as impacted by fixed versus variable costs, witness Thill testified on redirect 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, page 86)

Concerning the issue of price elasticity and repression, witness Thill referenced, on redirect, the Company's use of a factor of -0.3, which is conservative in light of the NBER report's calculation of -0.3 to -0.4 in the short run and -0.6 in the long run.

In response to a question from Commissioner Hughes as to the reasons why the Company is opposed to some type of variable wastewater charge in view of witness Thill's admission that flat wastewater rates are not conducive to conservation, witness Thill responded as follows (Tr. Vol. 4, pages 109 – 111):

> Well, so yes. I would agree that those flat rates are not going to induce conservation. But I also don't necessarily think that they are related. There are certainly some tangential relationships. But to the extent that our -- that Aqua's water increases or decreases has very little impact on what happens with our expenses related to wastewater. Because typically those fluctuations on the water side are going to be more related to irrigation, except discretionary usage.
>
> So the more you try to equate conservation that happens on the water side with revenues on the sewer side, you're really disassociating the expense from the revenue. You know, our costs are still overwhelmingly fixed. And so whereas there is a disconnect in the -- or the stability of Aqua within the current wastewater structure, again, being that most of our rates are flat, for all the residential anyway, it is vary (sic) variable for commercial, but that's not a big part of our business.
>
> So that certainly trumps the 83 percent, I believe it was, fixed expense within the sewer side. But that is very different than, you know, from a perspective to the Company and what the impact is versus the disproportionality that exists on the water side where we've got 90 percent fixed cost and only 40 percent of it on the revenue side.
>
> So we're trying to look at this as a holistic. You know, I don't want to speak for the Company, but I would -- that it would be a lot easier to embrace the -- some aspect of variability on the sewer side if it wasn't so lopsided on the water side. You know, we have to operate as a combined business, so that's how we look at it.

In response to follow-up questions from Aqua NC's counsel, witness Thill testified (at Tr. Vol. 4, pages 114 – 119) that the Public Staff's position on rate design 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 for the Company to achieve the three-year average consumption levels that have been used to determine rates. Witness Thill further stated that the Public Staff could itself have proposed a Company-wide rate design in this case that included inclining block rates, but did not do so. The witness then noted that in Docket No. W-100, Sub 59, the Public Staff recommended that block design is the optimal way to go. Witness Thill also stated that there is a general consensus that the block design, if designed correctly, can accomplish the ultimate goal, which is to create some of that conservation and relieve some of the stress on the systems that are out there.

The witness also testified that he only recently realized that the Public Staff's proposed 30%/70% water rate design ratio included an assumption that the Company's proposed CAM was either rejected by the Commission or withdrawn by the Company. Witness Thill stated that here the Public Staff put forth a proposal that would create greater uncertainty with a greater volumetric number but conditioned it on that there not be a revenue adjustment mechanism to provide a floor for the Company. Witness Thill then referenced testimony that repeats some of the language of the Commission about trying to create conservation and efficiency while also measuring up against the Company's revenue stability and sufficiency, stating that "I don't see that as a two-sided equation coming from the Public Staff's version."

Summary of Aqua NC Witness Shannon Becker's Direct Testimony

Aqua NC President Shannon Becker's direct testimony addressed the impact that the determination of consumption has on the Company's ability to meet its authorized return on equity or ROE. Witness Becker testified that, as described in witness Thill's testimony, a portion of the requested increase in this case is a result of reduced consumption per customer. Although the trend is clearly one of declining consumption, it should be noted that consumption can also increase significantly during extended periods of warm weather. Therefore, fluctuation is a factor that must be addressed in order for Aqua NC to meet the approved revenue requirement necessary to attain its authorized ROE. Aqua NC depends on the integrity and accuracy of a rate design in order to have an opportunity to achieve its authorized return. Key to this opportunity is reasonable accuracy in the derivation of consumption figures. 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. Aqua NC asserts that the persistent decline in consumption has regularly eroded the Company's opportunity to earn its authorized return. 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 ROE.

Witness Becker stated 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 ROE. Witness Becker noted 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 further testified that Aqua NC was also proposing a CAM 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 testified 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 G.S. 62-133.12A to 19 Article 7 of Chapter 62 of the General Statutes. 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. 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 has just gotten underway, witness Becker testified that Aqua NC reserved 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.

<u>Summary of Public Staff Witness Charles Junis' Testimony</u>

Regarding average consumption per customer, Public Staff witness Junis testified 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 ANC Water, 5.22% decrease for ANC 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 ended March 31, 2020.

Witness Junis stated 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 return. Witness Junis testified that, as noted in the 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 stated 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 as shown in Junis Exhibit 1.

Witness Junis testified that, on a consolidated basis, there has been a clear leveling out or stabilization of average monthly consumption since the dip in 2013. 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. 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. The three-year average is a relatively accurate representation of expected consumption in the short-term. This is especially true in light of Aqua NC's plans to file rate cases every 15 months. In addition, as shown in Junis Figure 1, there has been a consistent gradual growth in customers and total consumption since 2013. As a result of this growth, both revenues from base facilities charges and volumetric charges have increased from year to year. Therefore, 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 testified that, using the trend summary workpapers of Company witness Thill that are part of his billing analysis and rate design, he had 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 stated 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. From the updated data on a consolidated basis, there has been a clear leveling or stabilizing of average monthly consumption. 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 testified that the explanation for the unusually low consumption in the 12-month period ending March 31, 2019, was weather. More specifically, 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 stated that this conclusion is further supported by data from United States Drought Monitor (USDM). 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. At the time, 71 counties were classified as experiencing exceptional drought conditions. This is in stark contrast to more recent years. 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. 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. With the exception of the first two months, TY-1 or the 12-month period ending March 31, 2019, experienced minimal dry conditions. Therefore, consumption was unusually low.

Witness Junis stated that the Public Staff recommended that the Commission deny the utilization of the conservation normalization factor. He testified 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. 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. The average consumption during the years 2008 through 2012 was higher and trended downward. However, 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 testified 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.

Regarding issues related to water and sewer rate design, Public Staff witness Junis testified that the Company proposes to utilize the same ratio of base facilities charges to volumetric charges as approved by the Commission in the W-218, Sub 497 rate case.

With regard to water rate design in this case, witness Junis testified that the Public Staff agrees with the Commission 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. Witness Junis stated that, should the Company's request to implement a consumption adjustment mechanism be withdrawn or denied by the Commission, the Public Staff recommended an average bill service revenue ratio of 30%:70% (base facilities charge/usage charge) for ANC Water, Brookwood Water, and Fairways Water customers. The incremental shift to higher volumetric charges sends a price signal that properly promotes efficiency and conservation. The Company's total service revenues continue to increase annually and are expected to outpace the associated variable expenses. In addition, average monthly consumption per customer has been shown to be stabilizing. This combination of growth and stabilizing consumption makes it unlikely that the revenue instability and insufficiency the Company warns against will come to pass.

Witness Junis also described the generic investigation initiated by the Commission regarding rate design for major water utilities in Docket No. W-100, Sub 59 on March 20, 2019. Witness Junis, on behalf of the Public Staff, requested that the Commission take judicial notice of the Staff Comments filed on May 22, 2019, and the Reply Comments filed on June 19, 2019.

Witness Junis testified that, in its 2018 North Carolina Water & Wastewater Rates Report (2018 Report), the EFC stated, "[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)." The EFC further stated 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 percent reduction in bill)." For ANC Water, witness Junis stated that the present uniform water rate structure provides relatively little incentive, a bill reduction of 37.6%, for customers to significantly reduce their usage by 50%. 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%.

Witness Junis stated that if Aqua NC Uniform Water residential rates had been implemented at the 30%:70% ratio in the W-218, Sub 497 rate case utilizing the billing data and average monthly usage per customer from that proceeding, then the bill reduction percentage would have increased from 37.6% to 41.2% as illustrated in Junis Table 6. The hypothetical 30%:70% rates result in higher bill amounts because the average consumption per bill was below 5,000 gallons. According to witness Junis, a lower base facilities charge reduces the cost burden on customers for access to utility service before they use any service. It allows customers to have greater control over their total bills by changing their usage through improved efficiency and conservation. Witness Junis further stated that the rate design ratio of 30%:70% had been implemented in his testimony and in exhibits detailing the Public Staff's billing analysis and proposed rates.

Witness Junis testified that comparing the Company's proposed rates and the Public Staff's recommended rates for ANC Water, the bill reduction percentages are 38.0% and 41.7%, respectively. According to witness Junis, a price signal measure can simply be the cost of the next 1,000 gallons. In Junis

Table 7, the next 1,000 gallons at a rate of $7.33 (30:70 ratio) is 8% more costly than the Company's proposed water usage rate, while the base facilities charge is 33% less costly.

Witness Junis stated that the base facilities charge is a frequently discussed and highly controversial issue in electric, natural gas, water, and wastewater rate cases. There are advantages and disadvantages to the different base to usage ratios for the Company, rate groups, and individual customers. Junis asserted that, during his 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.

Witness Junis noted that, in the 2020 North Carolina Water & Wastewater Rates Report, EFC and NCLM conducted a survey with representation from 495 of 517 rate-charging water and wastewater utilities in North Carolina. The median monthly base charge amount was $17 for water utilities and $19 for wastewater utilities. In addition, the median uniform volumetric rate per 1,000 gallons was $5.00 for water and $6.11 for wastewater services. According to witness Junis, if water and wastewater rates were set as the Companies would like, the rates would be almost flat to guarantee revenues.

Witness Junis testified 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. A strict straight fixed/variable rate design matching fixed costs to the base facilities charge disassociates the customer level cost of service burden generated by high users. Flat rates or low volumetric rates promote discretionary usage and wasteful practices. Under the current regulatory construct, the Companies profit from increasing usage between rate cases and earn an authorized return on capital investment. Increased usage is also an increase in demand that may accelerate and/or necessitate the costly expansion of existing plant capacity or filtration on formerly offline wells. Discretionary usage and wasteful usage can also cause service issues like air in the water, poor water quality, low pressure, and outages.

According to witness Junis, with metered rates, the price signals can be accentuated when ratepayers are both water and wastewater customers. Presently, the ANC Sewer and Fairways Sewer residential charges are flat rate. The ANC Sewer and Fairways Sewer commercial charges are approximately a 35%:65% ratio. The present ANC Sewer volumetric commercial charges have a bill reduction percentage of 38.7%.

In commenting on Aqua NC's proposed wastewater rate design, witness Junis stated 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 recommended that the service charges to ANC Sewer and Fairways Sewer customers, which are also ANC Water and Fairways Water customers, be converted from a flat rate to a volumetric rate based on their water usage. He further noted that this has been considered in past Aqua NC rate cases dating back to the W-218, Sub 274 rate case.

After referencing the EFC Report filed in Docket No. W-218, Sub 363A, witness Junis testified that the Public Staff would prefer to uniformly move the ratio of base facilities charge to volumetric charge toward 30%:70%. However, the rate structure shift from flat to 30%:70% would be anticipated to result in significant rate shock for customers. While the average bill remains nearly the same, low users' bills would decrease and high users' bills would increase. As a means of mitigating rate shock while still progressing toward an effective price signal, witness Junis recommended an incremental approach to a 60%:40% ratio for ANC Sewer and Fairways Sewer customers.

<u>Summary of Public Staff Witness Junis' Rate Design Testimony in Response to Questions from the Commission</u>

In response to questions from Commissioner Gray regarding inclining block water rates, witness Junis testified that, to his knowledge, the Commission has not yet approved use of such rates for any water utilities in North Carolina. Witness Junis also stated 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, pages 107 – 110)

In response to questions from Commissioner Hughes regarding rate design, witness Junis testified that the Public Staff's proposed water rate design ratio of 30%/70% would have contained a lower base charge if a CAM was in place. (Tr. Vol. 5, page 119)

Summary of Aqua NC Witness Edward Thill's Rebuttal Testimony

Regarding consumption trends, Aqua NC witness Thill testified on rebuttal that witness Junis provided a host of charts and graphs in Junis Exhibit 2 in an effort to support the validity of the conclusion reached in the 2016 Environmental Finance Center Study that consumption of Aqua NC water customers has stabilized close to an average of 5,000 gallons per month. Witness Thill stated that the Company has suggested that the use of a three-year average in determining consumption should be supplemented by a conservation normalization factor; that is, an adjustment to reflect a continuing downward trend in rates of customer consumption. The Public Staff has countered that the downward trend has stabilized and therefore no adjustment is warranted. According to witness Thill, two points stand out for debate with respect to witness Junis' testimony: 1) since the trend is no longer occurring, the Company's calculation would underestimate average monthly consumption, and 2) due to growth in the number of customers, total consumption continues to increase and outpaces the associated variable expenses.

Witness Thill testified that the Company agrees that a narrowing of the band of variation has occurred, but true stabilization would imply essentially no volatility at all. He also acknowledged that the three-year average advocated by the Public Staff accomplishes a smoothing of year-to-year consumption patterns impacted by weather. Witness Thill further stated that if we assume that the three-year average is effective in this purpose, the average change from year-to-year should be fairly minimal and equally move in positive and negative directions.

In fact, though, as Junis Exhibit 2, page 2 shows, 7 of the 8 changes in the most recent consolidated three-year averages were decreases. Witness Thill continued by stating that when the data is viewed at the rate entity level, 19 of 24 changes (79%) were negative, including every measurement for the Brookwood entity. Aqua NC chose the periods presented in Junis Exhibit 2 as that data shows the clear and convincing trend that has plagued the Company for years. Although Aqua NC agrees that a narrowing has occurred, a narrowing does not mean the trend is gone. Looking at the change just over the last three years shows two declines and one neutral experience for the consolidated operations, and seven of nine declines at the rate entity level.

Witness Thill stated that Staff witness Junis discussed the effect weather can have on a single year, such as the 12-month period ending March 31, 2019. Witness Thill observed that while the three-year average smooths that out over time, a particularly wet or dry year will skew the average of each calculation for three years, hopefully offset by an unusual weather pattern with the opposite impact on consumption. With that in mind, an alternative view of the ongoing trend could be to look at the absence or presence of stability in the three-year averages in three-year intervals. According to witness Thill, analyzing the data in this manner removes the multi-year impact of anomalies and, using figures from Junis Exhibit 2, shows continued volatility as calculated in Thill Table 1.

Thill Table 1

Entity	3/31/14	3/31/17	Change	Annual	3/31/20	Change	Annual
All	5,338	5,160	-3.33%	-1.11%	5,036	-2.40%	-0.80%
ANC	5,068	4,961	-2.11	-0.70%	4,870	-1.83%	-0.61%
Brookwood	5,844	5,484	-6.16	-2.05%	5,083	-7.31%	-2.44%
Fairways	7,582	6,994	-7.76	-2.59%	7,139	+2.07%	+0.69%

As Thill Table 1 shows, a consolidated decrease from 5,160 gpm at 3/31/17 to 5,036 gpm at 3/31/20 is a change of -2.40% over three years, or -0.80% per year on a simple average. By many standards, that could be termed stable. For the Company however, witness Thill testified that the 0.80% difference comes at a real dollar cost.

Witness Thill further stated that when viewed at the rate entity level, consumption in the Brookwood entity is certainly not stable. He stated that witness Junis opines that "It would be reasonable to expect the Brookwood Water average monthly consumption to eventually flatten and stabilize…"[20] When responding to a Data Request for further explanation for that conclusion, witness Junis stated that "consumption cannot decline in perpetuity as there is some minimum level of non-discretionary usage."[21] Witness Thill agreed with that point, stating that there is a bottom out there somewhere but there is no evidence we are there. In fact, even if we were

[20] Page 24, lines 17-19, Prefiled Testimony of Charles Junis.
[21] Public Staff response to Aqua Data Request 7, Question 7a, included here as Thill Rebuttal Exhibit 4.

at that bottom today, we are still using inflated historical consumption data to determine today's rates. According to witness Thill, the chart for Brookwood Water presented in Junis Exhibit 2, page 4, clearly shows the decline. Rates are proposed by the Public Staff to be set using the three-year historical average which essentially moves and utilizes consumption levels from eighteen months earlier on that chart (the mid-point of the three years used in the average). Meanwhile, witness Thill stated that the Public Staff has proposed to increase the cost to the Company of any further consumption declines.

Witness Thill testified that his Rebuttal Exhibit 1 provides a summary of the Public Staff's rate design. This Exhibit shows proposed service revenues in the amount of $61.9 million. Comprising that amount is $43.8 million for water revenues using a 30%/70% fixed-to-variable ratio, and $18.1 million of sewer revenues including $10.7 million which has been modeled by the Public Staff using a 60%/40% fixed-to-variable ratio. The ratios approved by the Commission in the Company's Sub 497 rate case were 40%/60% for water and 100%/0% (fully fixed) for that comparable subset of sewer customers. Thill Rebuttal Exhibit 2 shows the impact of these ratio adjustments would be to move an additional $8.6 million, or 16% of the revenue subject to rate design, from fixed to variable. These ratio adjustments are being done with the express intent of encouraging conservation, which reduces revenue and adds volatility to the Company's revenue stream. Witness Thill stated that Staff's assessment of stability is not necessarily wrong, it is just measured against a different yardstick than the Company's. He opined that Staff is focused on percentages while the Company focuses on real economic impact.

Describing Aqua NC's focus on "real economic impact," witness Thill testified that the Company's yardstick of economic impact measures against the $34.8 million of variable revenue (see Thill Rebuttal Exhibit 1) tied directly to consumption, or 56% of the Staff's proposed $61.9 million. A 0.80% decline as discussed may be small enough to be considered stable by some, including witness Junis, but it calculates to a $278,000 loss of revenue by Aqua NC when applied to the variable component of the Company's revenue stream. Witness Thill stated that, later in this testimony, he would address the Public Staff's use of the term "financial windfall" in reference to $4,000. Witness Thill further testified that, here, we have the genesis of a $278,000 potential revenue deficit, yet it seems that the Staff would have the Company accept that as "close enough."

In response to the Public Staff's contention that, due to growth in the number of customers, total consumption continues to increase and outpaces the associated variable expenses, witness Thill testified that Aqua NC has been able to serve more customers, positively impacting the Company with additional revenue in the short term (until those customers are included in the next rate case), while producing long-term benefits to the entire customer base by spreading the Company's mostly-fixed costs across a wider distribution. According to witness Thill, the Public Staff's reference to the outpacing of associated variable expenses is attributed to the EFC Study. Witness Junis does not provide a specific reference but the Study's discussion on the impact of growth, at page 10, provides the following:

> Expenses would also rise. In the example described in the question, only short-term variable expenses would rise, plus a small portion of the fixed expenses (e.g. administrative costs for billing and collections).

But the Study continues further on that page:

> However, customer growth will eventually affect all short-term costs (fixed and variable) as well as some of the long-term costs.
>
> If depreciation, taxes and interest are also factored in (longer-term costs), the Test Year 2013 total wastewater expenses averaged $65.20/bill, canceling out the additional revenues generated from the new customers.

And further still:

> This analysis, however, does not consider the fact that operating expenses in the future will likely not be the same as they were in Test Year 2013. If unit costs for O&M increase (e.g. cost of chemicals and power increase, salaries increase, etc.), the future costs would be higher than the averages calculated above.

According to witness Thill, the Public Staff is promoting a top-line-only rationale that the prospective, post-rate case, event of growth should justify the current practice of ignoring demonstrated and continual deficiencies in the three-year consumption average, and does so while ignoring comprehensive cost increases associated with providing services in that prospective period.

Witness Thill testified that Public Staff witness Junis has devoted considerable effort to support his contention that the current measure of the three-year average is a fair and stable representation of customer consumption. That would imply a balance that could tip in either direction, which the data shows has not been the case, even in recent years. But if we were to accept witness Junis' conclusion that the three-year average was an appropriate proxy for current consumption, that would imply that the measure would reflect an equilibrium between risk and opportunity for both customers and the utility. Despite that risk equilibrium, the Public Staff has suggested in this case and prior, that a risk premium reduction should accompany any consumption adjustment mechanism. Witness Thill stated that, if the risk is truly evenly distributed, the presence or absence of a consumption adjustment mechanism in a "stable" consumption environment would have no greater value for the Company than it would for the customers.

Regarding the appropriate rate designs for water and sewer rates in this proceeding, Aqua NC witness Thill testified on rebuttal that the Sub 497 Rate Case Order approved water rate design ratios of 40%:60% for the Aqua NC Uniform Water Rate Division, 41%:59% for the Brookwood Water Rate Division, and 44%:56% for the Fairways Water Rate Division and that the Company has requested that no changes be made to those ratios in this case. Witness Thill further states that the Public Staff is proposing a shift to 30%:70% and that the Company opposes the Staff's proposed shift to greater volumetric water rates. Witness Thill testified that the Company's objections exist on several levels:

- Earlier discussion has already debated whether stabilization has actually occurred;
- If a design is expressly employed to induce efficiency and conservation (i.e. lower consumption), past stability, even as a flawed conclusion, has no relevance in assessing future destabilization;
- As quoted earlier from the EFC study:

Expenses would also rise. In the example described in the question, only short-term variable expenses would rise, plus a small portion of the fixed expenses (e.g. administrative costs for billing and collections).

However, customer growth will eventually affect all short-term costs (fixed and variable) as well as some of the long-term costs.

If depreciation, taxes and interest are also factored in (longer-term costs), the Test Year 2013 total wastewater expenses averaged $65.20/bill, canceling out the additional revenues generated from the new customers.

Staff's focus on only short-term variable expenses continues to ignore the comprehensive cost of providing service;

- Staff would create further imbalance between the Company's highly fixed expense structure (89% short-term fixed expenses for water entities as determined by the EFC Study) and its mostly variable revenue structure;
- Staff offers, here again, that future revenue deficiencies that are a known and intended consequence of this rate design process should be recovered from future growth, without regard to the utility's need to cover growth in future expenses incurred fully on behalf of and for the benefit of its customers.
- Staff's proposal provides further customer incentive for efficiency and conservation but serves to exacerbate the Company's current concerns regarding revenue sufficiency and stability.

Witness Thill testified that conservation incentive exists whenever there is a volumetric element to the rate design, and a shift to a greater volumetric element provides greater conservation incentive. The materiality of that change really depends again on your measuring tool. Witness Junis states "For ANC Water, the present uniform water rate structure provides relatively little incentive, a bill reduction of 37.6%, for customers to significantly reduce their usage by 50%." For the Public Staff, 37.6% is relatively little but 50% is significant. Witness Junis' proposal, using his proposed 30%:70% rate structure, would move that percentage to 41.2%. The analysis relies heavily on percentages to discuss extreme changes in consumer behavior. Staff offers no reason to believe that a typical 10,000 gpm user might have sufficient discretionary usage to cut their consumption in half. Nor is there reason to believe, using Junis Table 6, that the same 10,000 gpm customer might react differently if the incentive to reduce consumption was increased from the Company's proposed savings of $29.15 to the Staff's proposal of $34.35.

Additionally, although witness Junis presents that this rate design shift will drive customer conservation, he makes no provision in his rate design for elasticity and specifically objected to the concept of an elasticity adjustment in the Company's conservation pilot program. He offers no safeguard or offset to the Company while intentionally attempting to drive down consumption creating additional risk for the Company. Staff makes this proposal while also asking for a 10-basis point risk penalty if a consumption adjustment mechanism is approved. Missing from the Staff's discussion on the financial incentive of conservation to the customer is from where those dollars saved will come? Where is the balance to sufficiency and stability against the intended conservation, particularly considering an already unrepresentative 40:60 fixed vs variable rate structure and a demonstrated pattern of declining consumption?

Regarding the Company's proposed rate design for wastewater service, witness Thill testified that, for residential customers, the Sub 497 Order approved a ratio of 100%:0% (flat rate) and the Company has requested that no change be made to that rate design. Staff is proposing a shift to 60%:40% for all customers that are provided both water and sewer services by the ANC or Fairways entities, and flat rates for all others. For commercial customers, the Sub 497 Order approved a ratio of 35%:65% and the Company has requested that no change be made to that rate design. Staff is proposing to increase the ratio to 60%:40% to align with its proposal for residential customers.

Witness Thill testified that the Company is emphatically opposed to a shift to volumetric sewer rates for many of the same reasons expressed concerning Staff's proposal for a greater volumetric element for water revenues. Witness Junis recounts in his testimony the genesis and subsequent history of an EFC study authorized by the Commission and completed in 2016. No evidence or conclusion is provided from that study, nor does witness Junis provide evidence of his own in support of his position. Though it is difficult to rebut an argument not made, witness Junis' position could be argued against using some of his own objections logged in the discussion of the pilot program, particularly with regard to reversion from uniform to system-specific rates and the potential for claims of discriminatory practices.

Witness Thill testified that Aqua NC's objections include that the Staff proposal:

- Creates further instability and insufficiency in the Company's revenue stream without safeguards for the utility or ROE compensation for the added risk;
- Makes no provision in the rate design for the elasticity that is an intended consequence of this proposal;
- Disassociates 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;
- Creates further imbalance between the Company's highly fixed expense structure (83% short-term fixed expenses for wastewater entities as determined by the EFC Study) and its current mixed revenue structure. The current imbalance in favor of fixed costs in the sewer entities is more than offset by the greater imbalance in the (larger) water entities.

Witness Thill stated that there are advantages to a flat rate structure and that the EFC Study listed (at page 8) the following benefits of flat-rate billing:

> Flat-rate (flat-charge) billing is simpler to administer for the utility, and easier to budget for as a customer in terms of knowing with certainty what the wastewater charge will be every single month. Customers that have high water use (or even have a leak) will not be charged an excessively high volumetric wastewater bill. Flat-rate billing avoids the difficulty of pricing a volumetric rate, which could create problems if a portion of the customer base relies on high water use for basic needs and will therefore face high volumetric wastewater rates. Flat-rate billing provides a more predictable and stable revenue stream to the utility.

Aqua NC witness Thill concluded his rebuttal testimony by stating that there are advantages to metered billing, but in that Staff had not offered any testimony in support of those advantages, the Company would not seek to rebut its own position here, particularly as weighed against the many disadvantages already enumerated.

Summary of Aqua NC Witness Thill's Rebuttal Testimony on Redirect

During questioning by Aqua NC's counsel regarding his rebuttal redirect, witness Thill testified that the Public Staff's rate design proposal to increase the volumetric element for both water and wastewater "…moves more dollars at risk particularly when there's no safeguards that go along with it…." He further testified that, in the absence of a CAM, and with or without approval of the Company's proposed conservation pilot program, the Company's preferred position on rate design is "To certainly not accept any further risk without some compensation for it. So at this point we'd prefer to keep the rates in the same structure they were at in the Sub 497 case." Witness Thill testified that no changes should be made to the Company's water and sewer rate design ratios until a CAM is in place; i.e., "Some sort of offset, some recognition of the additional risk to complete that." He also stated that the Company's position on rate design is supported by the fact that water and sewer costs are largely 80% – 90% fixed rather than variable. (Tr. Vol. 7, pages 30 – 31)

Commission Conclusions Regarding Rate Design Issues

Based upon a careful consideration of the entire record in this proceeding, the Commission reaches the following conclusions regarding rate design:

1. 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. In addition, the Commission believes that a proper rate design is one which in fact allows a public utility, such as Aqua NC, a reasonable opportunity to recover its authorized revenues and achieve its authorized return on common equity.

2. 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 Uniform Water Rate Division; 41%/59% for the Brookwood Water Rate Division; and 44%/56% for the Fairways Water Rate Division.

3. In the absence of an approved conservation normalization factor and a CAM, the water rate design proposed by the Public Staff based upon a rate

design ratio of 30%/70% is neither reasonable nor appropriate for adoption in this case.

4. It is reasonable and appropriate that Aqua NC's rate design for sewer utility service provided to its residential customers in the Company's Aqua NC Sewer and Fairways Sewer Rate Divisions should continue to be based on monthly flat rate charges, as previously ordered by the Commission in the Company's Sub 497 rate case. In addition, it is reasonable and appropriate for Aqua NC's rate design for wastewater utility service to continue to be provided to its commercial customers based on a metered usage rate design ratio of 35%/65%.

5. In the absence of an approved conservation normalization factor and a CAM, the volumetric wastewater rate design proposed by the Public Staff based upon a rate design ratio of 60%/40% is neither reasonable nor appropriate for adoption in this case.

6. The water and sewer rate design approved in this case, which maintains and does not increase the current volumetric rate design ratios, will not further exacerbate the Company's ability to have a reasonable opportunity to recover its authorized revenues and achieve its authorized return on common equity. It fairly maintains the status quo, as requested by the Company, is not punitive to Aqua NC's shareholders, and is in the public interest.

7. The rates and charges included in the Rate Schedule attached hereto, are just and reasonable and should be approved.

Discussion of the Evidence Supporting the Commission's Findings of Fact and Conclusions Regarding Rate Design Issues

The testimony and exhibits offered in this proceeding by Company witnesses Becker and Thill fully support and justify the rate design findings of fact and conclusions reached by the Commission for the following reasons:

First, it is an uncontested fact 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. In addition, Aqua NC's customer habits are changing and, overall, the Company's average per-customer 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.

Second, the Commission agrees with Aqua NC 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 regarding revenue sufficiency and stability. In addition, they create further imbalance between the Company's highly fixed expense structure and its current mixed revenue structure. 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.

Third, 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 needlessly adds greater challenges to the Company's revenue sufficiency and stability, particularly when that rate design is not coupled with corresponding revenue reconciliation measures. Likewise, the Public Staff's absolute opposition in its direct testimony to Aqua NC's conservation normalization factor and CAM, as proposed, fails to further or promote innovative thinking regarding rate design issues or to promote a collaborative approach which might have led to a reasonable settlement or compromise rate design acceptable to both parties. In contrast, the Company reasonably seeks merely to maintain its current water and wastewater rate design, with or without its proposed conservation pilot program, in recognition of the Company's need for revenue sufficiency and stability as all parties, including the Commission, move forward toward development of rate design proposals that may better balance utility revenue sufficiency and stability while also sending appropriate efficiency and conservation signals to consumers.

Fourth, the Commission also notes that, as witness Thill correctly testified, there are advantages to a flat rate wastewater rate structure and billing as pointed out by the EFC Study (at page 8):

> Flat-rate (flat-charge) billing is simpler to administer for the utility, and easier to budget for as a customer in terms of knowing with certainty what the wastewater charge will be every single month. Customers that have high water use (or even have a leak) will not be charged an excessively high volumetric wastewater bill. Flat-rate billing avoids the difficulty of pricing a volumetric rate, which could create problems if a portion of the customer base relies on high water use for basic needs and will

> therefore face high volumetric wastewater rates. Flat-rate billing provides a more predictable and stable revenue stream to the utility.

In addition, consistent with Aqua NC's opposition to the Public Staff's proposal to shift in this case to a volumetric wastewater rate for its metered residential customers, the Commission agrees with witness Thill that such a significant change in wastewater rates at this particular time would create further instability and insufficiency in the Company's revenue stream without safeguards for the utility or ROE compensation for the added risk; makes no provision in the rate design for the elasticity that is an intended consequence of this proposal; disassociates 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; and creates further imbalance between the Company's highly-fixed expense structure (83% short-term fixed expenses for wastewater entities as determined by the EFC Study[22]) and its current mixed revenue structure. The current imbalance in favor of fixed costs in the sewer entities is more than offset by the greater imbalance in the (larger) water entities.

Thus, the Commission concludes that, under the specific facts of this case, no changes should be made in the Company's current water and wastewater rate design volumetric percentages at this time, particularly in consideration of the stipulated use of the Public Staff's proposed three-year consumption average to set rates in this proceeding and the absence of the

[22] Page 6 of the EFC Study.

Company's proposed conservation normalization factor[23] and CAM[24] (both of which were withdrawn).

For the reasons set forth above, the Commission concludes that the Company's rate design proposals should be approved and adopted for purposes of setting water and wastewater rates in this proceeding. The Commission favors rate design proposals that may better achieve utility revenue sufficiency and stability while also sending appropriate efficiency and conservation signals to consumers. Aqua NC's rate design proposals in this case better meet the Commission's concerns in this case than do the more volumetric rate design proposals put forward by the Public Staff.

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[23] Aqua initially proposed use of an adjustment for consumption in development of the Company's pro forma usage billing determinants. More specifically, Aqua applied a conservation normalization factor to the three-year average consumption figures for each of the Company's three water rate divisions. The purpose of the Company's proposed conservation normalization factor is to correct the three-year consumption average by rolling the experience to levels better reflecting those at the end of the test year. Aqua legitimately asserted 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. The Company withdrew its application for a conservation normalization factor as a matter of settlement with the Public Staff.

[24] In its Rate Case Application, Aqua also proposed implementation of a consumption adjustment mechanism or CAM for approval by the Commission pursuant to G.S. 62-133.12A. The CAM was initially proposed by Aqua to address the challenges of utilizing a persistently declining historic consumption pattern and to address potential swings in average customer consumption. The CAM provides a mechanism to correct any realized deficiency or surplus in the following year. However, similar to Aqua's negotiated withdrawal of its proposed conservation normalization factor, the Company, as part of its rebuttal case, also withdrew its request for implementation of a CAM, electing, instead, to pursue implementation of a CAM in its next general rate case. The Commission understands and appreciates the reasons stated by the Company for the decision to withdraw its request for a CAM in this case.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 35 - 43 (Conservation Pilot Program)

Summary of Aqua NC Witness Edward Thill's Direct Testimony

Aqua NC witness Edward Thill testified 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 appropriate ("sufficient" and "stable") cost recovery.

Witness Thill testified that Aqua NC proposed 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, Charlotte would charge $157.02 compared to Fayetteville's $99.62. Clearly the conservation signal is 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 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.

Witness Thill testified 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 considerations. 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 is experiencing stress to meet peak demand and could require (potentially near-term) capital investment if conservation is not realized.

The systems selected were: The Cape (Fairways); Arbor Bay (ANC); Bayleaf Master System (ANC); Merion (ANC); and Pebble Bay (ANC). Witness Thill stated 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 systems vary significantly in size, consumption volatility, and absolute level of consumption. Witness Thill provided 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 testified 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:

	ANC		**Fairways**	
	From	To	From	To
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 lesser users will experience an overall reduction in their average monthly bills at the expense of the heaviest 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 users that fosters the greatest incremental cost. Aqua NC's focus was on providing 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 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 stated 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 stated that Exhibit J to the Application contains a full schedule of proposed rates for the pilot program.

Witness Thill testified 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 stated that Aqua NC's pilot program considers irrigation rates to the extent was able. 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 before 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 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 stated that Aqua NC's proposed 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 separately assess irrigation for homes irrigating through their standard household meters, the Company expects that most irrigation would be captured in those same Blocks 3 and 4. The Company therefore assesses that this structure provides equitable treatment and similar conservation signals to its irrigation customers regardless of the presence or absence of separate meters.

Witness Thill testified that the intent of installing 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 No. W-218, Sub 274 and Docket No. 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 stated 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 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. That of course is not our 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 testified 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 us 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 our Revenue per Bill - Actual. The difference between those actual and authorized averages would define the Company's Average per Customer Usage Excess/Deficit. Dividing that Excess/Deficit by the Revenue per Bill as Authorized provides our Excess/Deficit Rate. The Rate is then multiplied by the originally authorized volumetric revenue to determine the value of the excess or deficit.

Witness Thill stated that, after allowing three months to collect and analyze the data, surcredits/surcharges would be assessed over a twelve-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 twelve-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/surcharges would roll into the subsequent period's calculation of the excess/deficit.

Witness Thill testified 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 believes that using a prospective customer count without also incorporating future cost increases should not be permitted.

Witness Thill testified 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 testified 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 stated 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.

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

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, page 71, lines 17 – 22). 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 Uniform 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 captain (sic)[25] 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.

[25] The proper word used by witness Thill was "capital".

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.[26] 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 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

[26] Aqua witness Thill testified on rebuttal as follows:

> …Aqua appreciates the issuance of the Order in Docket No. W-100, Sub 61, and thanks the Commission for the courtesy of allowing the Company an opportunity to adjust its position in this case. However, the Company elects respectfully to proceed with this case in a timely fashion and has made the decision not to pursue the CAM in this docket, but rather to incorporate a CAM proposal, developed in light of the Commission's rules, in its next base rate request. As such, Aqua formally withdraws its request to utilize the CAM in this rate case. (Thill Prefiled Rebuttal Testimony, page 63, lines 6 -13)

program, does not include an adjustment for customer growth; instead, it measures on the average per-customer use, which he believed to be consistent with the Commission's recent ruling in the CAM rulemaking. (Tr. Vol. 4, pages 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, page 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 pages 92 - 95). Witness Thill also described in detail how the revenue reconciliation process would work. (See Tr. Vol. 4, pages 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, page 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, pages 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, page 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. (See Tr. Vol. 4, pages 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, page 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 pages 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, pages 117 -119).

Summary of Public Staff Witness Charles Junis’ Testimony

Public Staff witness Charles Junis testified 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-Leesville service areas (ANC 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 testified 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 stated 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 testified 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 repression 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 repression 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 stated 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 Aqua 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 and/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 concluded his testimony by stating that the Public Staff recommended 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 testified 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, page 81).

Witness Junis further stated 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. (See Tr. Vol. 5, pages 80 – 95).

In response to a question from Commissioner Brown-Bland as to whether the Public Staff would be okay with reconciliation if it was capped on the total revenue requirement in the pilot area, witness Junis responded that he agreed that the revenue requirement would be the threshold or the target.

In response to questions from Commissioner Duffley, witness Junis testified 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 hasn't been implemented. He also stated 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 testified that, to his knowledge, the Commission has not yet approved use of such rates for any water utilities in North Carolina. Witness Junis also stated 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, pages 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, pages 113 – 117).

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

In response to questions from Public Staff Attorney Grantmyre, witness Junis testified 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 stated 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 modified 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, page 139).

Summary of Aqua NC Witness Edward Thill's Rebuttal Testimony

Aqua NC witness Thill testified in rebuttal to the testimony offered by Public Staff witness Junis. Witness Thill stated 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 testified that Aqua NC's proposed conservation pilot program is a direct response to the Commission's goals as stated in that docket.

Witness Thill responded to each of the concerns expressed by Public Staff witness Junis regarding the Company's conservation pilot program. He testified 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 replied 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 Uniform 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 stated that 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 testified 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 testified 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 Uniform 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 Uniform Water and 100% of Fairways Water residential customers. This level of coverage, particularly in areas of high consumption, should provide worthful 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 addressed 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 testified that there is no singular "correct" model and Aqua NC believes 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 addressed 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 stated 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 Docket No. 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 testified 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 repression 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 stated 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. Repression 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 stated 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 doesn't 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 stated 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/decreases to be considered effective.

Witness Thill further testified 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 testified 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.

<u>Summary of Aqua NC Witness Thill's Testimony in Response to Commission Questions</u>

In response to a question from Commissioner Duffley, witness Thill testified 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, page 61). Witness Thill also testified 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 testified 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 stated 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 Conservation Pilot Program Issues

Based upon a careful consideration of the entire record in this proceeding, the Commission reaches the following conclusions regarding Aqua NC's proposed Conservation Pilot Program:

1. 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.[27]

2. It is reasonable, appropriate, and in the public interest for the Commission to approve implementation of the Conservation Pilot Program as proposed by Aqua NC for residential customers in the following five of the

[27] In addition, the Commission believes that a proper rate design is one which in fact allows a public utility, such as Aqua NC, a reasonable opportunity to recover its authorized revenues and achieve its authorized return on common equity.

Company’s service areas in North Carolina: The Cape; Arbor Bay; Bayleaf Master System; Merion; and Pebble Bay. 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 appropriate (“sufficient” and “stable”) cost recovery. The revenue reconciliation process is an integral and necessary component to the pilot. The Company designed its pilot in a manner that encourages conservation without sacrificing its own authorized earnings. The pilot covers a representative group of water 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. Accordingly, Aqua NC’s conservation pilot program, as proposed, meets the two-prong test necessary for approval as set forth in Conclusion No. 1 above.

Discussion of the Evidence Supporting the Commission’s Findings of Fact and Conclusions Regarding Conservation Pilot Program Issues

The testimony and exhibits offered in this proceeding by Company witness Thill fully support and justify the findings of fact and conclusions reached by the Commission regarding Aqua NC’s proposed conservation pilot plan for the following reasons:

First, 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 Staff, has been successfully defended by the Company.

Second, witness Thill adequately and thoroughly responded to each of the concerns expressed by Public Staff witness Junis regarding the Company's conservation pilot program, including the integral revenue reconciliation process. 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 Uniform Water and 100 percent of Fairways Water residential customers; 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; 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 and they must necessarily create significant increases/decreases to be effective; that the use of a pilot program in two of the Company's Water Rate Divisions 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 the Company's customers; and that it would be unreasonable, if not imprudent, to subject the Company's entire customer base to such a dramatic structural change without first determining the effects of that change on a smaller representative sample of customers.

Third, Aqua NC filed its General Rate Case Application in this docket on December 31, 2019. The Public Staff filed its testimony on May 26, 2020, almost five months after the Company filed its Application. During that five-month period of time, the Public Staff conducted discovery with respect to Aqua NC's Application. In its testimony, the Public Staff opposed approval of the Company's proposed Conservation Pilot Program, including the revenue reconciliation process associated therewith. Witness Junis, on behalf of the Public Staff, requested that the Commission take judicial notice of the Staff's Comments filed on May 22, 2019, and the Reply Comments filed on June 19, 2019, in Docket No. W-100, Sub 59.

The Public Staff could have proposed modifications to Aqua NC's pilot in its rate case testimony, but did not do so. The Public Staff could have proposed its own version of an alternative pilot program, but did not do so. The Public Staff could have proposed an inclining block rate structure applicable to the Company's entire customer base as an alternative to the pilot, but did not do so. In fact, the Public Staff, at page 31 of its initial comments filed in Docket No. W-100, Sub 59, on May 22, 2019, recommended that inclining block designs were, in effect, the optimal way to go. The Public Staff had substantial and 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 and revenue reconciliation procedures should be approved and adopted for purposes of setting water rates in this proceeding. The Commission favors rate design proposals that may better achieve utility revenue sufficiency and stability while also sending appropriate efficiency and conservation signals to consumers. Aqua NC's Conservation Pilot Program meets this test and its approval by the Commission is in the public interest.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 44 - 59
(Utility Plant in Service and Plant Unitization)

<u>Summary of Testimony of Public Staff Witnesses</u>
<u>Windley E. Henry and Charles M. Junis</u>

Public Staff witnesses Henry and Junis (hereinafter collectively referred to as "witnesses Henry/Junis") testified jointly regarding issues related to utility plant in service. In order to investigate Aqua NC's plant additions to rate base, witnesses Henry/Junis testified that they reviewed the Company's water and wastewater utility plant in service records, including plant addition costs, unitization, in-service, and completion dates, and other supporting documentation, as far back as 2015. They stated that the supporting documentation varies with the type, duration, cost, and regulations associated with the project. The Company is required to maintain detailed transaction listings, or construction work in progress (CWIP) ledgers, which the Public Staff thoroughly reviews for a large sample of projects. In addition, the Public Staff obtains additional supporting documentation such as accounts payable invoices, contractor estimates of progress, work orders, internal engineering project closure forms, and North Carolina Department of Environmental Quality (DEQ) permits and approvals.

Witnesses Henry/Junis testified that the Company's novel request for aggregated deferral accounting treatment required the Public Staff to expand its investigation beyond the typical period of time, which is from the last rate case through the update period – in this case from July 1, 2018, through the update period of March 31, 2020, and thereafter as appropriate to evaluate post post-test year projects.

The Public Staff witnesses began by introducing certain terminology. First, they stated that the term "plant additions," which are capital assets, typically including additions, improvements, and replacements, booked to plant accounts with associate depreciation rates. A single project can consist of more than one addition to the general ledger plant accounts.

Second, witnesses Henry/Junis stated that the Company uses certain terms and definitions specific to its purposes. In an email to Public Staff personnel, Company witness Edward Thill provided a narrative explanation of the information related to dates used in the Company's asset management system (Power Plant) as follows:[28]

> Assets are generally considered plant in service when "used and useful" or, in other terminology, complete and in service. To that end, it is important to note that there are three separate date fields in Aqua's Power Plant asset subledger.
>
> > Completion date – This field is a general indication that an asset is "useful" but is strictly informational as no system action derives from this data. Aqua 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.
> >
> > In-service date – This field indicates 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", to be discussed later) and terminates any AFUDC calculation.
> >
> > Posting or Unitization date – 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.

According to the Public Staff witnesses, in a follow-up email dated May 4, 2020, Company witness Thill summarized the date fields in the Power Plant asset subledger and provided additional clarification as follows:

> > Completion date – drives nothing, just informational
> >
> > In-service date – drives auto-retirements (where applicable) and stops AFUDC

[28] Email from Company witness Edward Thill dated April 24, 2020.

> Unitization – starts depreciation; must be complete and in-service
>
> . . . .
>
> Once transactions are recorded in the financial accounting records and accounting periods are closed, the Company is unable to change the underlying data. *For material transactions that need adjustment, entries can be made to modify the accounting on a go-forward basis but the historical records cannot be changed.* To the extent that the Public Staff and the Company identify transaction errors that fall below the Company's financial materiality threshold, but exceed the Public Staff's materiality threshold, it may be appropriate for the Staff to recommend adjustments in the ratemaking process. (Emphasis added by the Public Staff).

Witnesses Henry/Junis testified that ideally, the in-service date will occur in the same month as the unitization date. In the W-218, Sub 274, rate case, the Public Staff recommended and the Commission ordered a review of and changes to Aqua NC's accounting procedures.[29] [Footnote was included in the written testimony filed by the Public Staff]. Specifically, the Commission ordered as follows:

> 8. That Aqua NC shall *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, such accounting system should keep plant additions on a system-specific basis, as required by Order issued on January 29, 2008, in Docket No. W-218, Sub 251. Such accounting system shall be in place prior to the Company filing another general rate case for any of its operations in North Carolina. If Aqua NC files a general rate case for any of its operations based upon a test year in which the plant records have not been brought into compliance, any additional rate case costs due to the inadequate records shall not be borne by the ratepayers.

[29] Order Granting Partial Rate Increase and Requiring Customer Notice, *Application by Application by Aqua North Carolina, Inc., Fairways Utilities, Inc., Glynnwood Water Systems, Inc., Mountain Point Utilities, Inc., Rayco Utilities, Inc., Willowbrook Utility Company, Inc., Heater Utilities, Inc., and Mobile Hill Estates, for Authority to Increase Rates,* No. W-218, Sub 274 and Docket No. W-224, Sub 15 (N.C.U.C. April 8, 2009).

> 12. That Aqua shall *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 this Order. (Emphasis added by Public Staff).

Witnesses Henry/Junis testified that, according to the Quarterly Status Reports filed in Docket No. W-218, Sub 274, in order to comply with Ordering Paragraph No. 8, the Company converted to the Power Plant asset management system to record and maintain plant records. In order to comply with Ordering Paragraph No. 12, the Company responded as follows:[30]

> 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. Aqua filed recommended changes to procedures in its June 30, 2009, filing.

According to witnesses Henry/Junis, this approach would be acceptable to the Public Staff if utilized consistently and for an overwhelming majority of its CWIP projects. However, based on its review, the Public Staff has found that this has not been the case. 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.

[30] Second Status Report filed in Docket No. W-218, Sub 274, on September 29, 2009.

The Public Staff witnesses stated that in response to a Public Staff data request, the Company provided an explanation of how the Company differentiates capital expenditures between WSIC/SSIC, Blanket/Routine Replacements, and Non-Routine, Non-WSIC/SSIC, as follows:[31]

> WSIC/SSIC eligible projects are generally well-defined and are separately approved by the Commission for recovery between rate cases. These projects are still subject to rate lag, but to a lesser degree than non-WSIC/SSIC projects. These projects were separately delineated in the discussion of deferred accounting because to the extent any interim recovery was approved under a WSIC/SSIC filing, that recovery would appropriately be deducted from a deferred accounting request. The distinction between these assets and the Other Non-WSIC/SSIC projects is only for purposes of estimating the revenue recovery to be used in the computation.
>
> Blankets/Routine Replacements consist of non-project work, often of an emergency nature, that is immediately placed into service. These expenditures are typically replacing other assets already in the Company's UPIS inventory, and retirements are simultaneously recorded (using the Handy Whitman Index). In that these assets are primarily in replacement of assets already in the asset base and therefore being recovered in current rates, recovery in deferred accounting would be duplicative so these assets have been excluded from the deferred accounting request.
>
> Other Non-WSIC/SSIC projects are simply the residual of the Company's capital spend after deducting assets in the WSIC/SSIC and Blanket categories. . .

Witnesses Henry/Junis testified that, unfortunately, the Public Staff failed to identify and make appropriate adjustments for a number of discrepancies between the in-service date and the Company's unitization date for projects included in rate base during the W-218, Sub 497, rate case. The Company previously asserted that the accounting process to book capital projects typically takes 30 to 60 days,

[31] Aqua NC response to Public Staff Data Request No. 102-9 in Docket No. W-218, Sub 526.

sometimes longer, as described above. Accepting this explanation, the Public Staff did not initially recommend an adjustment. As shown in Henry and Junis Exhibit 1, the Company unitized the projects' costs in 2018, months after the asset was placed in service in 2017, which is an unreasonable delay. The list of plant additions in the total amount of over $5.8 million have accumulated one less year of depreciation due to the delay in unitization. The decreased amount of accumulated depreciation has the effect of increasing rate base that earns a return for the Company. The Public Staff witnesses requested that the Commission weigh these facts appropriately as part of its decision-making in the present proceeding.

According to witnesses Henry/Junis, the accounting records clearly show that the Company can and sometimes does unitize plant additions in the same month as an asset is placed in service, rather than a couple of months later as indicated by the Company in the past. Despite this, as recently as June 2019 the Company's explanation for why assets were placed in service during Q4 but were not unitized by the Company until Q1 of the following year, was generally that the accounting process to book capital projects typically takes 30 to 60 days. The same explanation was given for why assets were placed in service in Q2 but not unitized by the Company until Q3.[32] These unitizations often occur at a high rate in Q1 and Q3 of each year – the second halves of the WSIC/SSIC semiannual adjustment periods – and/or the post-test year period of rate cases. The resulting

[32] Company witness Dean Gearhart sent an email to Public Staff (including Windley Henry, Charles Junis, and Bill Grantmyre) and Bob Bennink on June 26, 2019, with the First and Second Status Reports in Response to Commission Order in Docket No. W-218, Sub 274, which stated, "These timing tweaks in our current WSIC/SSIC filing are really a product of our internal procedure that we have been adhering to for 10 years now. This is the first time these adjustments have been suggested by the Public Staff in one of our WSIC/SSIC filings."

reduction of accumulated depreciation and additional return on the increased balance of rate base produces a financial windfall for the Company. In addition, the Company benefits financially from unitizing plant costs as close to rate recovery as possible.

The Public Staff witnesses testified that in November 1, 2019, Aqua NC filed an Application for Approval of Water and Sewer System Improvement Charge Rate Adjustments Pursuant to G.S. 62-133.12 in Docket No. W-218, Sub 497A. According to Paragraph 17 of the Application, the total investment spent on WSIC/SSIC eligible projects was $6,594,351 during Q2 and Q3 of 2019. As shown in Henry and Junis Exhibit 2, the WSIC/SSIC Application included over $4,970,183 (or 75% of the total) for 60 plant additions unitized in September 2019. Of those 60 plant additions, 44 (or 73%) plant additions totaling $3,661,937 in cost were placed in service and unitized in September 2019. In October 2019, 39 plant adjustments were unitized in the total amount of $(16,354) associated with those 60 plant additions, as shown in Henry and Junis Exhibit 3. The Public Staff verified that the project costs in the WSIC/SSIC Application are the same as the totals of the September 2019 unitizations. The Company did not provide this credit to plant as an update to the WSIC/SSIC Application and therefore, since January 1, 2020, the Company has been recovering the incremental depreciation expense and capital costs associated with the $16,354 through the mechanism surcharges. The Public Staff will recommend the excess monies recovered between January 1, 2020, and the date of the rate case order in the present docket be refunded as part of the annual review and EMF as of the end of the year. The foregoing analysis shows that the Company is not consistently following its own accounting procedures to “allow 30 to 60 days for any trailing costs to be charged to these in-service activity numbers before closing the asset.”

Based on the results of the Public Staff’s investigation, witnesses Henry/Junis recommended numerous in-service date and cost adjustments to UPIS and accumulated depreciation. As part of the Public Staff’s review of Aqua NC’s Application for Approval of Water and Sewer System Improvement Charge Rate Adjustments Pursuant to G.S. 62-133.12 filed on May 1, 2019, in Docket No. W-218, Sub 497A, the Public Staff removed two ANC Water filtration projects totaling $648,434 that were unitized by the Company in March 2019 but, according to the Engineer’s Certification statements stamped by a professional engineer and DEQ’s Final Approvals, were not completed until April 24, 2019. As a result of the completion date, the projects were not in service and used and useful during the applicable WSIC/SSIC period of Q4 2018 and Q1 2019. The Public Staff also identified 13 projects totaling nearly $1.7 million that were unitized by Aqua NC in Q1 2019 despite being placed in service in Q3 2018 or Q4 2018. The table below summarizes these projects with regard to the WSIC/SSIC Application.

Table 1

Rate Entity	In Service in Prior Year	Total Projects	Percentage of Projects
ANC Water	4	16	25%
ANC Sewer	7	16	44%
Brookwood	2	3	67%
Fairways W	-	2	0%
Fairways S	-	-	-
Total	13	37	35%

As shown in Henry and Junis Exhibit 4, the Public Staff witnesses testified that they made adjustments as part of WSIC/SSIC procedure to account for the in-service date occurring months before the Company finally unitized each of the projects. The in-service date adjustment amounted to $50,202 of additional accumulated depreciation, or 39% more than the Company's unitizations. The Company did not include these adjustments to accumulated depreciation as part of its rate case application. Therefore, the witnesses recommended the Commission approve these regulatory accounting adjustments, as incorporated in the schedules of Public Staff witness Henry, and require Aqua NC to include them in all future rate cases until the assets are retired.

According to witnesses Henry/Junis, when incorporating these plant additions into rate base during the rate case, the timing of the in-service date between Q1 2019 and Q4 2018 is the difference of twelve months of additional accumulated depreciation on the Company's books.

Witnesses Henry/Junis testified that in the post-test year period of October 2019 through March 2020, the Company unitized $20,634,060 of capital expenditures categorized as WSIC/SSIC, Blank/Routine Replacements, and Non-Routine/Non-WSIC/SSIC. The Public Staff reviewed the plant records and other supporting documentation. As shown in Henry and Junis Exhibit 5, the Staff adjusted the unitization date for 44 plant additions in the total amount of $1,381,871. For the majority of the plant additions listed, the Public Staff corrected the date to be the in-service date inputted by the Company and/or a reasonable amount of time after the trailing costs had been sufficiently captured. End of year closings were considered to require the same level of expediency as employed by the Company for its unitizations in September 2019 and March 2020, a majority of which were same month closings. All of the adjustments result in the assets accumulating additional depreciation either in the pending rate case or in future rate cases.

In addition, the Public Staff witnesses stated that they made four project specific reductions to plant for excessive accrual of allowance for funds used during construction (AFUDC). The most recent accounts payable transactions were in February 2019 for the "Field Tablets – 2019", April 2018 for the "Bridgepoint #8 Instl AquaGuard", September 2018 for the "RC New Generator Beachwood 02-196", and July 2017 for the "Instl AquaGard Coachmans Trl #3."

The Public Staff witnesses recommended that the Commission approve the following adjustments to utility plant in service as shown in the schedules of Public Staff witness Henry:

1. Corrections to in service dates of WSIC/SSIC projects that were not appropriately unitized by the Company in Q1 2019;
2. Corrections to in service dates of plant additions that were not appropriately unitized by the Company in Q1 2020; and
3. Reductions to plant addition costs.

The Public Staff witnesses concluded by stating that the inconsistent UPIS practices described in their testimony was concerning to the Public Staff as they can result in financial windfalls to the detriment of ratepayers. To address this issue, the Public Staff recommended 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 of its internal practices and any plans to change the procedures within 90 days of the Commission's final order in this proceeding.

In summarizing the Public Staff's prefiled testimony, witness Junis stated, in pertinent part, the following regarding the issue of unitization:

> 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, paged 308 – 309).

<u>Summary of Testimony of Public Staff Witnesses Henry and Junis in Response to Cross-examination, on Redirect, and in Response to Questions from the Commission</u>

In response to questions from Aqua NC's counsel, witness Junis admitted that the Public Staff was particularly critical of the Company's unitization practices. When asked to point to a specific place in prefiled testimony where the Public Staff made the statement that depreciation should always begin to accrue on the in-service date, witness Junis could only reference the testimony set forth at page 7, line 7 which states: "Ideally, the in-service date will occur in the same month as the unitization date." He quickly followed up by stating, in pertinent part, that:

> And then I will add, it has come to our knowledge that -- at the time we wrote this testimony, we did not have a full understanding, at least Mr. Henry and I did not, of the capabilities of Power Plant….

> This Power Plant asset management system has the capability to book assets utilized by these Commission-regulated utilities as completed or nonclassified or not classified costs for projects upon which completion but not all invoices and costs have been accounted for.
>
> So with this, that partially addresses the idea of double-bookings, and it starts depreciation. Because what happens is you have this capability to book this completed asset, so basically it's in service, but you haven't collected all the paperwork. So whatever costs you have at that time, you would book it. And that completed not classified cost would stop accruing AFUDC, which is important for customers, and it begins depreciating at a general depreciation rate of the related plant. (Tr. Vol. 4, pages 319 – 320).

Witness Henry admitted on cross-examination that the practice utilized by Aqua NC has been to begin depreciation as of the unitization date. He also agreed 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. Witness Junis admitted on cross-examination that the Public Staff adjusted the unitization dates for 44 plant additions out of approximately 469 non-WSIC/SSIC and blanket projects during the post-test year period of October 2019 through March 2020. (See Tr. Vol. 4, pages 323 -335).

In response to a question from Commissioner Clodfelter, Public Staff witness Henry stated that the Public Staff, with the exception of adjustments to service dates for certain "long-lived" projects which the Staff made in this case, is generally satisfied with Aqua's methodology for calculating and accruing AFUDC. (Tr. Vol. 4, pages 342 – 343). Witness Junis responded to questions regarding

Power Plant and its completed, not-classified approach function. He also responded to unitization and Power Plant questions from Commissioners Duffley and McKissick.

Summary of Rebuttal Testimony of Aqua NC Witness Edward Thill

Aqua NC witness Edward Thill testified that the purpose of his rebuttal testimony was to rebut the joint testimony of Public Staff witnesses Henry and Junis concerning their review of UPIS issues. Witness Thill stated that, as recounted in Staff's testimony, in response to Public Staff's recommendation, the Commission ordered, in the W-218, Sub 274 rate case, a review of and changes to Aqua NC's accounting procedures. In complying with Ordering Paragraph No. 12 of that Docket, the Company responded as follows:[33]

> 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.

Witness Thill stated that, regarding that policy, the Public Staff listed among its concerns:[34]

> This approach would be acceptable to the Public Staff if utilized consistently and for an overwhelming majority of its construction work in progress (CWIP) projects. However, based on its review, the Public Staff has found that this has not been the case. 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. The evidence and discussion of this issue is presented in further detail later in our testimony.

[33] Second Status Report filed in Docket No. W-218, Sub 274, on September 29, 2009.
[34] Page 8, lines 16 - 24 of Prefiled Joint Testimony.

According to witness Thill, the Public Staff included within its testimony and exhibits specific assets for which the unitization date is called into question and concluded that:[35]

> The inconsistent UPIS practices described above are concerning to the Public Staff as they can result in financial windfalls to the detriment of ratepayers.

Witness Thill testified that Aqua NC takes this matter very seriously and has worked with the Public Staff to understand its concerns. The Company has provided an inordinate amount of detail and has reviewed that information and Aqua NC's related processes extensively with Staff. In fact, the Company provided Staff with information on over 63,000 asset entries for the period 2015-2020. The Company has nothing to hide, the data speaks for itself, and it disagrees with Public Staff's conclusion. There are systems and processes in place to track, document and verify the Company's utility plant in service. Aqua North Carolina is a subsidiary of Essential Utilities (formerly Aqua America), a publicly traded utility. As such, Essential Utilities is subject to the Sarbanes-Oxley process which includes a review of key internal controls on an annual basis. In addition, the finance department of Aqua North Carolina works through quarterly reviews of various capital project reports and conducts regular meetings with operations and engineering staff to stay informed of the status of Construction Work in Progress (CWIP). Finally, Essential Utilities also has an internal audit group that follows a three-year rotational review of each state, which includes Aqua North Carolina (last review in 2018). While all processes are subject to inadvertent mistakes and no

[35] Page 17, lines 3 - 5 of Prefiled Joint Testimony.

process is without room for improvement, the Company feels strongly that its processes work, and work well.

Witness Thill stated that in any given month, the Company is closing as much as $13 million in rate base. Excluding the auto-unitizing "blanket"[36] 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. 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 stated that projects are a compilation of the efforts of specialists: engineers, operators and compliance professionals. The Company 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. The unitization process is coordinated by the Company's property accountant. That individual is a highly skilled and experienced accountant, and though neither a project manager nor a field expert, her role has elements of each discipline. 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

[36] "Blanket" funding projects represent a specific category of asset additions with particular characteristics within the Company's Power Plant 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 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 Power Plant 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's asset listing is overwhelmingly comprised of blanket purchases.

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 stated that it was his understanding that no other state in which Aqua operates requires assets within the same consolidated rate division to be accounted for at the individual water system level. To give perspective to the diffuse nature of Aqua North Carolina's operations and resultant accounting challenges, the witness stated that there are 735 water systems and 64 sewer systems in Aqua North Carolina. These North Carolina systems comprise nearly 50% of the systems in all of Aqua America but serve less than 10% of all its customers. In witness Thill's view, 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.

According to witness Thill, the Company has adapted to this process. However, he noted 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. The witness also noted that, building on earlier discussion regarding project management, communication between the field staff and accounting staff is key here. Again, due to the way in which individual projects are closed, that communication impacts the timing of closing projects.

Witness Thill testified that the Public Staff's concern is that the Company - allegedly intentionally - unitizes assets inconsistently. In Staff's view, the unitization occurs too quickly in some cases, and not soon enough in others. When an asset unitization is delayed---even where necessary or unavoidable---it can end up in the wrong year. Their concern follows that this impacts the starting period for depreciation and that can have an impact on rate base and therefore rates.

In describing how Aqua NC's use of the mid-year depreciation convention minimizes any impact on the Company or its customers, witness Thill testified that the mid-year convention is a commonly used depreciation method, compliant under Generally Accepted Accounting Principles, that assesses a half year's depreciation to all assets in the year of acquisition regardless of the in-service month. Whether an asset is unitized in January-2019 or December-2019, the asset will be assessed the same ½ of a full year's depreciation, therefore minimizing the impact of the unitization date during the year.

Witness Thill stated that, because of the mid-year depreciation convention, unitization dates really only matter when an asset crosses years. For example, if an asset is unitized in 2020 that should have been unitized in 2019, the asset will record no depreciation in 2019 and six months of depreciation in 2020. However, the asset would appropriately have recorded six months in 2019 and a full year in 2020, a difference of one year's depreciation. Thus, witness Thill testified that much of the conversation with the Public Staff has been when an asset crosses years.

Witness Thill stated that the Public Staff's use of the term "financial windfall" is concerning. Aqua NC takes exception to this language and to the insinuations that arise from it. Aqua NC has thousands of projects each year that must be documented and processed on a timely basis. The Company is always open for constructive suggestions from the Public Staff and will review those recommendations; especially those which can help improve its processes. Aqua NC objects strongly, however, to suggestions that the Company is trying to inflate the costs to ratepayers to the benefit of shareholders.

Witness Thill noted that Henry and Junis Exhibit 1 lists nine projects (fifteen line-items) totaling $5.8 million of additions included in the prior rate case (W-218 Sub 497, decided by Order of December 18, 2018) that the Public Staff now believes may have been unitized in the wrong period [note that upon its further review, the Public Staff acknowledged[37] that one of the listed projects (Governor's Club EQ Replacement) in the amount of $1.1 million is no longer a concern for Staff.] Although the Public Staff proposed no adjustment for these expenditures, since the issue has been raised, witness Thill addressed it as follows.

Witness Thill stated that the Company agrees with the Public Staff's assessment that the unitization process can be cumbersome, but much of that is a direct result of the inherent complexity of any project completion process. The closing of a project can involve the separate functions of engineering, operations, compliance and accounting. External influencers such as vendors and regulatory agencies add another level of complexity and inefficiency. As Staff notes, ideally all plant would unitize in the month placed in service, but Staff also notes appropriate causes for delay in unitization "… include, but are not limited to, receipt

[37] Provided by the Public Staff in response to Question 3a of Aqua's Data Request No. 8.

of accounts payable from vendors, invoicing disputes, and mechanical, structural, and/or efficacy issues that develop upon start-up."[38]

According to witness Thill, Revised Thill Rebuttal Exhibit 5 added a column to Henry and Junis Exhibit 1 identifying the last invoice payment for each of the listed projects. Staff identified a number of subjective reasons that might appropriately delay unitization, but invoice payment dates are a fully objective indicator, as the project cannot close until all costs are in. Note that six line-items totaling $3.4 million of the $4.7 million in question (after removing the Governor's Club project from the population) show that, despite having in-service dates of October 2017, final invoice payments did not occur until December of 2017. Another $0.8 million made final payments in November 2017. Just as immediate unitization is an ideal, so too is the 30 to 60-day subsequent window.

Witness Thill stated that, looking back, we can now know definitively when final payments were made, but only through that lens of hindsight. Information is often not known for some window of time after payments are made due to the necessary coordination between internal departments and external vendors, particularly where invoice disputes might exist. And payment processing is only one factor for consideration in the unitization process. The Public Staff's post-unitization review has the benefit of hindsight in reviewing payment data, but does not assess the full complement of factors influencing the Company's

[38] Provided by the Public Staff in response to question 1b(i) of Aqua's Data Request No. 8, included in this Rebuttal as Thill Rebuttal Exhibit 6.

unitization on a real-time basis. Yet, Staff seeks to retroactively assign its conclusion to the Company's unitization practice.

Witness Thill testified that despite expressing its view that unitization in the month placed in service is the ideal practice, Staff, at the same time, registers concern when that ideal is actually achieved. Staff opines that "the Company benefits financially from unitizing plant costs as close to rate recovery as possible."[39] The Company offers that a more correct phrasing of this relationship is that the Company is harmed less by lag when it unitizes plant costs as close to rate recovery as possible. Staff correctly notes that unitizations occur at a higher frequency in the months that cut off the two semi-annual WSIC/SSIC filing periods. Regulatory lag itself incentivizes utilities to time the start and completion of projects based on rate recovery cycles. This should be neither surprising nor alarming. As quoted in Staff's testimony, the primary intent of the WSIC/SSIC mechanism is "… to encourage and accelerate investment in needed water and sewer infrastructure by means of a mechanism which will alleviate the effects of regulatory lag…"[40]

The concern raised now by Staff is not a challenge to the prudency of the expenditure or the validity of recovery or even the timely benefit to the customer, but that somehow the Company is wrong for timing its expenditures to minimize the loss of its original cost (or principal, if one were to view the transaction as a

[39] Page 11, lines 16 - 18 of Prefiled Joint Testimony.
[40] Page 31, lines 22 - 25 of Prefiled Joint Testimony, quoting from the Commission's May 2, 2014, Order Granting Partial Rate Increase, Approving Rate Adjustment Mechanism, and Requiring Customer Notice, in Docket No. W-218, Sub 363.

loan to be repaid) as well as the related cost of capital (or interest/return). Note that the interest and depreciation (principle) incurred/recorded on all assets is LOST (free) through the date an asset is included in prospective rates – these costs are never recovered by the utility. Staff would have the Commission accept that the Company's prudent, loss-minimization strategy equates to the production of an inappropriate "financial windfall." Obviously, the Company contests that assertion.

According to witness Thill, Henry and Junis Exhibit 3 describes projects included in the Company's November 1, 2019 Application for Approval of Water and Sewer System Improvement Charge Rate Adjustments. The Public Staff paints a picture of an inflated WSIC/SSIC application by the Company to the financial detriment of its customers. Aqua NC agrees that adjustments were made in October to reduce the cost of assets included in that application by $16,354. The adjustments were necessary and appropriate corrections of a system processing error that recorded too much AFUDC in September. It was an inadvertent mistake. However, contrary to Staff's representation, this information was provided to the Public Staff and was considered in the Staff's presentation for the Commission's approval. The Order included several references to the Aqua NC revised Appendix B as well as Staff's recommendations as follows:[41]

(1) Revisions made to Uniform water project cost – In response to Public Staff data requests, Aqua provided to the Public Staff, a *revised Appendix B* for Uniform water operations reflecting a reduction of the total cost of several projects listed in the original filing. The combined reduction of these project costs is $9,193.

[41] Page 4 of January 6, 2020, "Order Approving Water and Sewer System Improvement Charges on a Provisional Basis and Requiring Customer Notice", Docket No. W-218, Sub 497A

(2) Correct accumulated deferred income tax (ADIT) – Aqua inadvertently calculated tax depreciation on land acquired as part of the 2019 projects costs for Uniform water operations. This error was subsequently corrected by Aqua in the *revised Appendix B* provided to the Public Staff.

(3) Adjustment to Brookwood/LaGrange project cost – The Public Staff is recommending an adjustment to decrease the cost of the Strickland Road water main relocation project from $237,426 to $236,737 based on responses provided by Aqua to Public Staff data requests.

Thill Rebuttal Exhibit 7 shows relevant components of the initial filing and the approved Order. Witness Thill stated that it is unclear why some discrepancies exist but Aqua NC notes that the Order reflects the AFUDC adjustments for:

- the full list of ANC Water projects,
- none of the ANC Sewer adjustments,
- and only one of three Brookwood adjustments.

As a note for completion, witness Thill testified that it appears that the Company did not provide the AFUDC adjustment amount of $1,829 for two ANC Sewer projects included in Henry and Junis Exhibit 3.

According to witness Thill, Thill Rebuttal Exhibit 7 shows definitively that the Company did provide, and Staff was aware of and considered, at least the majority of the October adjustments. Staff mistakenly states otherwise in its testimony:[42]

> The Company did not provide this credit to plant as an update to the WSIC/SSIC Application and therefore, since January 1, 2020, the Company has been recovering the incremental depreciation expense and capital costs associated with the $16,354 through the mechanism surcharges. The Public Staff will recommend the excess monies recovered between January 1, 2020, and the date of the rate case order in the present docket be refunded as part of the annual review and EMF as of the end of the year. The foregoing analysis shows that the Company is not consistently following its own accounting procedures to "allow 30 to 60 days for any trailing costs to be charged to these in-service activity numbers before closing the asset."

[42] Page 12, line 15 to page 13, line 3 of Joint Testimony

The Public Staff's recommendation in the WSIC/SSIC Order, with these AFUDC adjustments in-hand, concludes in part:[43]

> The effect of the adjustments discussed above reduces the overall revenue requirement for Uniform water and Brookwood/LaGrange water operations, however, Aqua's proposed WSIC percentages did not change based on the projected 2020 non-WSIC revenues.

According to witness Thill, that conclusion by the Public Staff would indicate that it felt at the time, and with knowledge of at least the majority of those adjustments, that rates were set appropriately.

Witness Thill stated that the Company is in full agreement that the referenced WSIC/SSIC rates should be subject to recovery by customers of any excess collections, as all WSIC/SSIC adjustments are. However, witness Thill indicated that the Company would argue strongly against Staff's claim that this incident is indicative of a variance in the Company's accounting procedures or that this event supports Staff's overall conclusion that a review of procedures is warranted. The specific incident that Staff brings to question here is the correction of an inadvertent processing error. The Company's immediate correction of that error and timely notice to the Public Staff after filing its Application should be part of a normal course of business, not an action to be penalized.

Witness Thill testified that Henry and Junis Exhibit 4 summarizes the Public Staff's review of assets included in the Company's May 1, 2019 WSIC/SSIC application. During Staff's application review, it identified concerns regarding the in-service dates of several projects and provided the Company an opportunity to

[43] Page 5 of January 6, 2020, "Order Approving Water and Sewer System Improvement Charges on a Provisional Basis and Requiring Customer Notice", Docket No. W-218, Sub 497A

review and challenge its conclusions. The Company did not challenge the Staff's conclusion as part of the WSIC/SSIC application, nor does it challenge the adjustment in this rate case. Staff's adjustment concerns modification of in-service dates on assets totaling $1.6 million, with a net reduction to the revenue requirement of approximately $4,400.

Regarding the specific concerns identified by the Public Staff as supported by Henry and Junis Exhibit 5, witness Thill contended that this analysis did not take into account the reality of the every-day operations of the utility and that the exercise undertaken in Henry and Junis Exhibit 5 was not relevant. Witness Thill stated that Henry and Junis Exhibit 5 applies the Public Staff's <u>own standard</u> in waiving the accepted 30 to 60-day unitization period and changes the depreciation dates for a host of post-test year additions either to the system designated in-service date or, in some cases, an alternative date of its choosing.

Having previously expressed its concerns as to possible delays in the unitization of some projects, witness Thill stated that the Staff pivoted to a new argument that because the Company is able to achieve the ideal objective of unitizing <u>some</u> projects in the month placed in service, the Company should be retroactively held to a standard requiring that <u>all</u> projects should have been unitized in the month of service, notwithstanding accepted policy or its own expressed list of factors that would appropriately delay unitization.

According to witness Thill, the Public Staff stated in its testimony that:[44]

> As shown in **Henry and Junis Exhibit 5**, we adjusted the unitization date for 44 plant additions in the total amount of $1,381,871. For the majority of the plant additions listed, the Public Staff corrected the

[44] Page 15, lines 5 - 13 of Prefiled Joint Testimony.

> date to be the in service date inputted by the Company and/or a reasonable amount of time after the trailing costs had been sufficiently captured. End of year closings were considered to require the same level of expediency as employed by the Company for its unitizations in September 2019 and March 2020, a majority of which were same month closings.

Witness Thill asserted that missing from Staff's explanation is clarification that it used its own estimate to "correct" the unitization date to either the in-service date inputted by the Company or an earlier date of Staff's determination of a reasonable amount of time after the trailing costs had been sufficiently captured. Witness Thill stated that interesting in this exercise was that Staff actually moved the unitization date in advance of the final vendor payment for ten (10) of the 44 line-items, a practice unavailable to the Company as Staff had previously required that projects close a single time once all costs are final. In each of these 10 cases, the last vendor payment was still in 2019, which matched the revised unitization year, but Staff's presentation serves to exaggerate the unitization lag.

Witness Thill stated that, in that the Public Staff acknowledges that there are valid reasons that assets might be unitized beyond the service date, Aqua NC inquired in and Staff responded to, Question 8 of the Company's Data Request No. 8 as follows:[45]

> Q. a. For EACH addition listed for which Staff has assigned its own in-service date rather than accepting the in-service date provided by the Company, please explain Staff's process and reason for conclusion.
>
> b. For EACH addition listed for which Staff has accepted the Company's in-service date as the appropriate unitization date, please explain Staff's process of evaluating whether extenuating circumstances might have appropriately delayed the unitization.

[45] Included in this Testimony as Thill Rebuttal Exhibit 9.

A. Given the time allotted to respond to this and other data requests directed to witness Junis, the Public Staff cannot address each addition but can provide a more detailed description of the general process utilized to identify and recommend reasonable in-service dates. Page 15, lines 7-13, states as follows:

> For the majority of the plant additions listed, the Public Staff corrected the date to be the in service date inputted by the Company and/or a reasonable amount of time after the trailing costs had been sufficiently captured. End of year closings were considered to require the same level of expediency as employed by the Company for its unitizations in September 2019 and March 2020, a majority of which were same month closings.

In general, the Public Staff reviewed the available detailed transaction listing supporting the final cost of each project, Aqua's internal work order and engineering project closure form, engineering certification and NCDEQ final approval, accounts payable invoices, and any associated data request response. Upon consideration of the available documentation, the Public Staff utilized either the unitization date, in-service date, or recommended a reasonable alternative in-service date.

Witness Thill noted that the unitization dates for 11 of 44 line-items was changed to a date other than the system in-service date. He stated that the Public Staff performed a detailed review of the assets in question but failed to provide that review for rebuttal by the Company in question (a) above. Thirty-two (32) of 44 line-items totaling $1,061,741 (79%) had in-service dates in November or December 2019, and allowing 30 to 60 days to ensure completion, brings those assets into 2020 within policy, but Staff provided no indication of its post-in-service review as requested in question (b) above.

Witness Thill testified that adjustments proposed by Staff and comments in testimony imply that the Company is intentionally delaying unitization to enhance earnings to the detriment of its customers. Staff noted, "All of the adjustments result in the assets accumulating additional depreciation either in the pending rate case or in future rate cases."[46] According to witness Thill, that comment reads as if 100% of a population, or at least of a representative sample, was found to be in error. Henry and Junis Exhibit 9 shows that asset additions recorded in the first quarter of 2020 totaled nearly $15 million. He noted that Staff raised concerns on $1.3 million (9%), and rejected past policy of a 30-60 day closing period to get to that level. Missing from the picture drawn by Staff's inferences is a more holistic picture of the Company's unitization practices.

Witness Thill testified that Thill Rebuttal Exhibit 8 shows that, of $1.8 million unitized in December 2019 (excluding blankets which unitize without discretion), $1.6 million have in-service dates either in November or December 2019, which according to policy parameters could have been pushed to 2020 if return, rather than proper accounting, were the Company's primary concern. And further to that point, excluding the anomaly of 2018 spending that led up to that year's rate case, the month of December had the third most unitizations across those four years, including 42% unitized in the same month and 31% within 30 days (i.e. November in-service). March and September top the list for unitizations, but if the Company were truly trying to manipulate unitization practices as implied by Staff, December should be at the bottom of the list, not near the top.

Witness Thill further testified that he wanted to provide additional information for some context for the Commission. He stated that Henry and Junis Exhibit 9 shows the Staff was presented information on nearly $160 million of

[46] Page 15, lines 13 - 15 of Prefiled Joint Testimony.

additions over 5.25 years; 3.5 years prior to the start of the test year in this case. Staff used hindsight to go back in time and raise concerns regarding real-time processing of approximately $8.4 million of additions, a portion of which is within this review only as a result of Staff's retroactive application of a brand-new unitization policy for the Company, and without regard to the factors even Staff acknowledged are appropriate for delayed unitizations. To give perspective on that $8.4 million, the only quantification of the impact of delayed unitizations has been regarding Henry and Junis Exhibit 4 where $1.6 million of reassigned dates yielded a $4,400 reduction in the revenue requirement of this rate case.

In response to the Public Staff's recommendation that the Commission order the Company to review its procedures concerning UPIS and file a subsequent report, witness Thill testified that the Company strongly believes that the appropriate processes and procedures are in place for documented utility plant in service. However, he stated that there is always room for improvement and Aqua NC is not opposed to reviewing these procedures. Aqua NC strongly disagrees with Public Staff's concerns and its references to potential "financial windfalls". Significant time and effort have already been exhausted by both the Public Staff and the Company (and now the Commission) in reviewing this issue. Witness Thill stated that Aqua NC does not believe another report is required on this matter, but will stand ready, again, if that is what it takes to eradicate this issue once and for all.

As part of the summary of his rebuttal testimony, witness Thill stated that, as a function of the Company's evolving understanding of the Public Staff's position and with the Commission's permission, Aqua NC would like to amend its filed position concerning the Public Staff's recommendation for a 90-day report. That request was allowed and witness Thill further testified that Aqua NC contests the Public Staff's assertion that the Company has been inconsistent, to the detriment of customers, regarding its plant unitization practices and firmly believes that the Company will prevail on the merits of this extremely complicated issue.

However, witness Thill continued by recommending on behalf of Aqua NC, as an addendum to his rebuttal testimony, that if 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 Public Staff witnesses Henry and Junis "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." Witness Thill stated that this would allow Aqua NC 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.

Based on a motion made by Aqua NC's counsel, witness Thill was then allowed by the Commission to present additional rebuttal testimony to address testimony offered for the first time at the evidentiary hearing regarding certain functional capabilities of the Power Plant program. The Public Staff testimony in question had not been prefiled, but was first offered from the witness stand by Staff witnesses Henry and Junis.

In response to questions from Aqua NC's counsel, witness Thill testified that he had not, prior to the testimony offered by the Public Staff, previously heard anything from the Staff about certain functionalities of Power Plant being a solution to any issue raised by Staff in this rate case. He further testified that he had a number of "robust" conversations and explanations with witness Junis and other Public Staff personnel about the Company's UPIS practices, and responded to related data requests, but there had been no mention of Power Plant's use being an issue during such time. Witness Thill testified that it was his understanding that Aqua NC began to use Power Plant in about 2009/2010 and that Power Plant is an asset management program.

Witness Thill testified that prior to Aqua NC making the decision to utilize Power Plant, there had been a number of acquisitions, and in that 2008 time frame the acquisitions were coming in from disparate systems. Initially, Aqua NC was tracking this all via Excel spreadsheets. However, there came a point where Excel was no longer the right solution. There had to be a better solution in view of issues raised in the Sub 274 rate case, and that was one of the recommendations and Power Plant was ultimately selected as the solution as Aqua NC consolidated its disparate (small, large and developer) systems into a more efficient, more organized corporate structure. Aqua NC also had to address a disparate number of accounting systems, which also had to be absorbed and reconciled. Power Plant was the solution to those obvious problems that surfaced very clearly during the consolidation. It took the Company about a year to implement use of the Power Plant program.

Witness Thill further testified that, according to his understanding, Aqua NC employees Tammy Bernard and Susan Wilburn worked with the Public Staff during that period to implement Power Plant and to produce the kinds of results that the Commission ordered. The witness further states that Aqua NC used Accenture as a third-party consultant to help with that process and, of course, Aqua America personnel in Pennsylvania, because this was a centralized project. Witness Thill stated that from 2009 until March of 2019, Aqua NC was unaware of any communication of concerns expressed by the Public Staff about the Power Plant asset management system. The witness stated that it is his understanding from colleagues at Aqua NC that they worked with Kathy Fernald (who he described by reputation as a "bit of a legend"), who was then head of the Public Staff Water and Sewer Accounting Division in the development of these procedures and the implementation of Power Plant.

Witness Thill testified that it was in conjunction with the Company's May 2019 WSIC/SSIC surcharge filing the Company first heard from the Public Staff that there were concerns about a couple of assets that were part of that filing. According to witness Thill, this was not a discussion about processes at that time. It was a discussion about specific assets. He continued however that whenever a company has a problem with assets, "that means something maybe wasn't a hundred percent within the processes." Aqua NC started doing some analysis about what should be different and why that happened. Internally, the

Company started a tracking process; a signoff, for its engineering projects. He stated that the engineering team would go through their process and when convinced that the job was complete, they would sign off on a form. They would pass it off to operations. When operations indicated that they were complete, they would then sign off and send that over to Tammy Bernard so that she could then unitize the project. This wasn't done with the Public Staff, so, the Staff wouldn't necessarily have had knowledge about that. It was something that the Company decided internally that it needed to review. The next conversations with the Public Staff about asset management arose within this rate case during the Staff's investigation.

Witness Thill testified that Power Plant is a system used by a lot of utilities, including other Aqua subsidiaries. But each subsidiary is regulated differently, so there are specific issues that are going to apply to North Carolina's version than maybe elsewhere, and that's something that needs further review on the Company's side. The witness further stated that these asset management issues and programs and controls evolve over time and that the Company is always moving forward. Witness Thill concluded by stating that he does not believe that the asset management issues that are being discussed right now are the same ones that were being discussed in the mid-2000's.

Summary of Thill Rebuttal Testimony in Response to Cross-Examination and in Response to Questions from the Commission

In response to cross-examination by Public Staff Attorney Grantmyre, witness Thill was asked if the main concern of the Public Staff is to the correct in-service dates when depreciation should begin? Witness Thill responded as follows:

> Well, I would say no to that because the discussion about when depreciation should begin was really brand new in the summary that Mr. Junis provided yesterday. Prior to that discussion was about in service date versus unitization date. And depreciation has -- in everything we've provided, we've been very specific that depreciation has been based on unitization date. (Tr. Vol. 6, Page 104).

Witness Thill agreed with Mr. Grantmyre that this general rate case is the first proceeding before the Commission for Aqua NC since March of 2019 that litigated issues were presented.

In response to questions from Commissioner Clodfelter, witness Thill testified that the version of Power Plant utilized by Aqua NC contains the functionality described as "completed but not yet categorized" and that some of the other Aqua subsidiaries actually use it. He stated that generally speaking witness Junis correctly described the functionality. It should be noted, however, that witness Thill later shared 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.

In response to questions from Commissioner McKissick, witness Thill reaffirmed the information that he supplied by email to the Public Staff as quoted on pages 5 – 6 of the prefiled Henry/Junis testimony and stated that the posting or unitization date is when depreciation begins. In response to a question asking why the Company contends that depreciation should begin on the unitization date, witness Thill responded that The Commission's Sub 274 Order required Aqua NC 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. That was where Power Plant came in.

According to witness Thill, the Uniform System of Accounts guides utility accounting, supplemented by orders of the Commission. 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. According to witness Thill, the key word here for Aqua NC is "practicable." It shows a recognition of the fact that unitization (the process of moving an asset from CWIP to UPIS) is not a switch. Maybe there are some additional modifications that need to happen or some post-startup testing that needs to be created. There are things that happen outside of that particular day that would imply that the project is functioning, but is not quite complete. And sometimes that takes time. Witness Thill noted that the Uniform System of Accounts references completion, not in-service, and "practicable," because this is not as easy as it seems.

Witness Thill further stated that:

> The life of theory, it is great. It covers 80 percent, 90 percent of the world and…it would great if we looked at accounting and everything was black and white and right and wrong and everything knows -- everybody -- exactly what the rules are, but there's always gray, because there's interpretations that need to happen. And those are the things that happen on a daily basis.
>
> So when we've got that as our overriding beginning principle is that things should move from quick [Note: the word "quick" in the transcript should be 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.
>
> Now, what has been interpreted from that or at least what has been presented in Staff's argument was that initially it should always be 30 to 60 days. The argument that was presented seems to have changed course as I read through it, because it challenges the fact that because we're not doing it 30 to 60 days always and sometimes we do it in the month of, that means now we've shown that we can do it and it should always be in the month of and that's just not the reality.
>
> So if we stuck with the initial presentation that Staff provided which was whoa, you're not operating according to your plan because you're not waiting 30 to 60 days, that would indicate that all of those -- we've heard about blankets - these routine replacements that unitize in the month of the spend. If we were waiting the 30 to 60 days for that, those blankets in November and December actually pushed into next year and that doesn't make any sense. It wouldn't be fair. And so there is that gray if you will that goes into this and that's what makes it difficult. (Tr. Vol. 7, pages 45 – 47).

Regarding utilization of the Power Plant 106 Account (Completed but not yet Categorized), witness Thill testified that the Company has concerns about how well it would actually work within Aqua North Carolina's construct, since there are different requirements with regards to depreciation across the eight states in which Aqua [now Essential Utilities] operates. Witness Thill stated that he has been advised that in Illinois, everything in a quarter is actually unitized in the start of the next quarter, so there's a lag going the other way for their assets. Witness Thill indicated that Tammy Bernard, Aqua NC's property accountant for nearly two decades and a key part of the Company's initial transition to Power Plant, has indicated internally her concerns regarding the challenges that using the 106 Account might create.

Witness Thill further stated that the issues that are presented now are ***not*** the same issues that were presented in 2008. There were no discussions about whether or not it should have been in-service date or unitization date to start depreciation. This is a whole different discussion. According to witness Thill, it is important to know this is not something that Aqua NC failed to fix 10 years ago and has just been taking advantage of that going forward.

In response to a question from Commissioner McKissick as to whether Aqua NC would "appreciate a bright line standard so there is no ambiguity," witness Thill replied that having that bright line is always beneficial to all parties, because then you have something to measure against. He continued by stating that what is important for Aqua NC as we move forward with some sort of review is to understand the implications of such a bright line.

In response to questions from Public Staff Attorney Grantmyre, witness Thill indicated that the Public Staff adjusted the unitization dates for certain WSIC/SSIC projects in the Company's May 2019 surcharge application, which drives the depreciation date. (Tr. Vol. 7, page 66).

In response to questions from Aqua NC's counsel regarding the Company's compliance with the Commission's directive in the Sub 274 docket, witness Thill testified as follows:

> You know, part of the contention was that we're missing out on the consistent part. You know, that's one of the requirements within this order, and – so the Public Staff argument has been that we have not been consistent because we don't always do 30 to 60 days. We don't always do immediate. And as mentioned earlier, there's reasons for that. There's a lot of stories.

> …[W]ith regards to the volume of information we provided to the Public Staff going back to 2015, and those numbers we've got some $159 million worth of assets in that timeframe. Those kind of break out loosely as about a third each between blankets, WSIC/SSIC eligible items, and everything else. Within those groups, all blankets are unitized in the month of service. Actually in the month of expenditure is better to say. We can't unitize it until we pay it. So we've got a hundred percent of those are in the month of. That's always been the case. So to the extent that there was any expectation that we would wait 60 days to unitize those, that's not the case. Those are a hundred percent in the month of.
>
> So then we move onto the WSIC/SSIC category. Fifty-seven percent of those are in the month of. Another 22 percent a month later. Nine percent a month later. So that totals up to 88 percent are within that 60-day window. Not all immediate. Not all 30 or 60 days later. But 88 percent within that two-month period.
>
> There are issues that go beyond that. There's obviously 12 percent that go longer than 60 days. There are stories that go with those. Am I saying the process is a hundred percent? It is not. It could always be better. Every process can.
>
> There's one other category and that's the all else category. Within that group we're at 49 percent are unitized within the month of. Twenty-one percent of that…is the next month. And 10 percent the next month. So we're at 80 percent. So to the extent there's a thought that there's this terrible amount of stuff that's just being extended well beyond the system that's already been described, that's just not the reality.
>
> Within the two-month window we've got 89 percent of the assets have been unitized and have started depreciating. (Tr. Vol. 7, pages 68 – 70).

Witness Thill further testified that the Company was required to file quarterly compliance reports in the Sub 274 docket and that those reports were filed for two years before the reporting requirement was terminated by the Commission by Order dated June 29, 2011. He stated that the Company assumed that termination of that reporting requirement meant that the Public Staff, the Attorney General, and the Commission were satisfied that things were on the right track and that the

Company heard no other complaints about its accounting procedures until the May 2019 WSIC/SSIC filing.

Regarding Commissioner McKissick's suggestion of a bright-line depreciation standard, witness Thill testified that there should be "a well-thought-out fully considered discussion" during the Public Staff's recommended reporting process; that with bright lines it is a lot easier for the Company to operate its business; and that any bright-line standard submitted to the Commission for approval should only be put in place on a prospective basis; and that the retroactive impact of a change in depreciation impact, when the Company had no notice of that change, "doesn't seem fair at all." Regarding his testimony that any bright-line standard should only be adopted on a prospective basis, witness Thill further testified that the Commission has not had an opportunity to rule because the issue has just been raised, "so the idea that we would now be held to a standard that has not been before the Commission…would not seem fair." (Tr. Vol. 7, pages 72 – 73).

Conclusions of the Commission Regarding UPIS and Unitization Issues

Based upon a careful consideration of the entire record in this proceeding, the Commission reaches the following conclusions regarding UPIS and unitization issues as contested in this case:

The Commission has found no evidence in this case that Aqua NC has historically acted in bad faith or in an unreasonable or illicit manner in the way it has unitized plant and recorded depreciation since implementing the Power Plant accounting system in 2010. The Company admits to certain asset-specific errors for which it has accepted responsibility and has accepted the related ratemaking adjustments proposed by the Public Staff in this case and in a prior WSIC/SSIC surcharge proceeding. The relatively small fraction of the Company's asset additions for which the Public Staff has proposed changes to the Company's depreciation periods is evidence of an overwhelming compliance with the 60-day window prescribed in the Sub 274 Order.

The possibility of making errors is universal, particularly where complicated and voluminous amounts of data are processed, and the Commission will not hold the Company to an impossible standard of perfection. That is not to ignore errors and their impact on consumers, but rather to focus all parties on minimizing the potential for future errors. In this regard, the Commission gives substantial weight and credibility to witness Thill's testimony identifying the proactive measures the Company independently installed to better address the Pubic Staff's concerns that came to light with certain assets included in its May 2019 WSIC/SSIC surcharge filing. The Commission's interest is to ensure, to the maximum extent possible, that any errors made by regulated utilities are the exception, rather than the rule, and that proper regulatory accounting for ratemaking purposes is consistently observed.

For the purpose of deciding this case regarding when Aqua NC should have begun to record depreciation on its plant assets, the Commission determines that the date of unitization, rather than the in-service date, is the applicable date. Aqua NC's long-standing policy and goal of closing plant assets on the Company's books within 30 to 60 days after an asset is placed in service, in conjunction with the mid-year depreciation convention, is reasonable and in accordance with the

Commission's Sub 274 Order that required Aqua NC 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. The range historically permitted within this policy is recognition of the complications that can exist in the unitization process. The Commission also agrees with witness Thill that the Public Staff's post-unitization review has the benefit of hindsight in reviewing payment data, but does not assess the full complement of factors influencing the Company's unitizations on a real-time basis. Additionally, the Commission, in light of the fact that the overwhelmingly majority of the assets have been recorded in compliance with this policy, does not find that the Company has abused this reasonable tolerance.

Further, the Commission does not accept the Public Staff's argument that Aqua NC's unitization of assets in less than 30 days is a practice inconsistent with this policy and worthy of scrutiny. A tighter schedule instead complies with the Company's greater obligation to unitize plant assets without undue delay and as expeditiously as possible, consistent with the Uniform System of Accounts, and to the financial benefit of its customers. The Commission understands that it may not always be possible for Aqua NC to close all plant assets during the applicable 60-day window, but those later closings must surely be the exception and not the rule.

Aqua NC's unitization practices, including when the Company begins to depreciate its plant assets, under its Power Plant accounting system have been open and fully transparent during the decade since 2010.[47] They were designed to address and resolve the specific accounting issues and deficiencies addressed by the Commission in Aqua NC's Sub 274 Rate Case Order. The Company has made no attempt since implementing its Power Plant accounting system in 2010 to hide or obfuscate its policies with regard to unitization and the accrual of depreciation. Nor has Aqua NC taken any action to apply its unitization practices and judgments in a manner designed to produce a "financial windfall" for the Company or to otherwise prejudice its customers.

Except to the extent agreed and stipulated to by Aqua NC in this case, no further adjustments to the Company's accumulated depreciation levels should be made in this or future rate cases for the plant assets herein included in rate base. Any change in the UPIS and unitization practices currently observed by Aqua NC will only be implemented on a prospective basis after approval by the Commission.

Furthermore, in order to more fully understand and satisfactorily resolve any UPIS and unitization issues on an ongoing, but prospective, basis, Aqua NC will be required to conduct a comprehensive review of its current procedures and policies for determining when projects are complete, in service, and booked and file a report setting forth the Company's findings with respect to its internal accounting practices and policies and any plans or recommendations regarding

[47] In fact, 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 addressed the matters noted in Decretal Paragraph Nos. 8 through 17 of such Order. Furthermore, Public Staff witness Fernald testified that Aqua NC complied with all of the reporting requirements set forth in Decretal Paragraph No. 18 of the Commission's April 8, 2009 Order.

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 set the framework necessary to evaluate the merits and challenges of establishing a prospective policy which (a) is clearly 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 and (b) ensures conformity with proper accounting under the Uniform System of Accounts and for ratemaking purposes.

The Commission urges Aqua NC to consult with the Public Staff during the course of its review and in preparation of its report. The Company should review the findings of its review with the Public Staff and should work collaboratively to address any disagreement.

Discussion of the Evidence Supporting the Commission's Findings of Fact and Conclusions Regarding UPIS and Unitization Issues

The testimony and exhibits offered in this proceeding by Company witness Thill and Public Staff witnesses Henry and Junis fully support and justify the UPIS and unitization findings of fact and conclusions hereinabove reached by the Commission for the following reasons:

First, Aqua NC took immediate action to comply in full and on a timely basis with the Commission's directives set forth in Ordering Paragraphs 8 and 12 of the Rate Case Order in the Company's Sub 274 proceeding which required the Company to (a) 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; (b) keep plant additions on a system-specific basis; and (c) review its procedures for determining when projects are completed and should be closed and file its recommended changes to its procedures. By entering into a Stipulation with the Public Staff, Aqua NC, in good faith, acknowledged the problem and recognized the need to integrate the Company's detailed plant records for its disparate merged systems into a new and standardized accounting system in compliance with the Uniform System of Accounts. Power Plant was the accounting system chosen for implementation by the Company with the full knowledge of the Public Staff.

Second, Aqua NC filed eight quarterly reports over a period of more than two years setting forth its actions to comply with the Commission's directives and indicated that the Company was keeping the Public Staff fully comprised of what it was doing. Regarding the Company's compliance with Ordering Paragraph 12, Aqua NC stated in its first quarterly report 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 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.** (Emphasis added).

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 noted, in pertinent part, that Public Staff accounting 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 the Sub 274 docket and opined that the Company has complied with all applicable reporting requirements.

Third, Aqua NC has operated under the Power Plant 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 UPIS and unitization practices did not conform with the Uniform System of Accounts or that the Company's depreciation practices were suspect or deficient. Nor was there any indication that the accounting deficiencies complained of by the Public Staff in the Sub 274 rate case were continuing in any manner.

Fourth, Aqua NC has, based on the evidence of record, consistently depreciated its plant assets based on the date each asset was unitized in the Company's Power Plant accounting system. Based on the eight quarterly reports filed by the Company in the Sub 274 docket, both the Commission and the Public Staff were put on notice that, with respect to project assets that were complete and in service, Aqua NC's accounting practices allowed 30 to 60 days for any trailing costs to be charged to project in-service activity numbers before the asset was closed on the Company's books. The Public Staff has detailed some instances where there were delays in meeting the Company's 30 to 60-day target time period to close and unitize projects.

Aqua NC does not dispute the fact that such exceptions exist or that some errors may have been made, but rightfully asserts that extenuating circumstances can and do occur which reasonably and necessarily delay unitization. Even the Public Staff recognizes that "…there are circumstances or factors that could legitimately delay a complete and accurate unitization after the in-service date." In that regard, the Public Staff admits that such factors include, but are not limited to, receipt of accounts payable from vendors, invoicing disputes, and mechanical, structural, and/or efficiency issues that develop upon start-up." (See Thill Rebuttal Exhibit 6 which is a response by the Public Staff to an Aqua NC discovery data request).

Aqua NC's unitization practices, including when the Company begins to record depreciation on its plant assets, under its Power Plant accounting system have been open and fully transparent. There is no evidence that the Company has made any attempt since implementing its Power Plant accounting system in 2010 to hide or obfuscate its policies with regard to unitization and the accrual of depreciation. Nor is there any evidence that Aqua NC is influenced to apply its unitization practices and judgments in a manner designed to produce "a financial windfall for the Company" as alleged by Public Staff witnesses Henry and Junis on page 11 (lines 14 – 16) of their prefiled testimony.

Fifth, Aqua NC witness Thill testified that the Company provided the Public Staff with information during discovery on over 63,000 asset entries for the period 2015 – 2020. Aqua NC has thousands of projects each year that must be documented and processed on a timely basis. In addition, witness Thill stated that, in any given month, the Company closes as much as $13 million in rate base. Excluding the auto-unitizing "blanket"[48] 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. According to witness Thill, 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.

The evidence in this case also indicates that the North Carolina requirement for system level assignment of assets is unique in that no other state in which Aqua operates requires assets within the same consolidated rate division to be accounted for at the individual water system level. Aqua NC operates 735 water systems and 64 sewer systems in North Carolina. The Commission takes note of the testimony of Aqua NC witnesses Thill and Becker concerning the burden that system-level asset tracking places on the Company but, because the Company has made no specific request for removal of that requirement, the Commission finds no cause to consider modification of that requirement at this time.

Sixth, the Public Staff asserts that "The Company benefits financially from unitizing plant costs as close to rate recovery as possible." The Commission understands that it is likely true that, where able, Aqua NC times its capital projects

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[48] "Blanket" funding projects represent a specific category of asset additions with particular characteristics within the Company's Power Plant 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 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 Power Plant 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's asset listing is overwhelmingly comprised of blanket purchases.

in a manner that attempts to minimize rate lag and maximize recovery. In-service and unitization dates that tend to aggregate toward the recovery periods of WSIC/SSIC or general rate case filings are a natural consequence of that capital management. The Commission is not disturbed by such an observation and, in fact, understands that Aqua NC is merely making reasonable and prudent business decisions designed to minimize regulatory lag in its cost recovery and is not using accounting practices to manipulate such outcomes. The Commission will not criticize the Company as suggested by the Public Staff as this concept is neither surprising nor alarming.

Aqua NC witness Thill also testified that the mid-year depreciation convention is a commonly used depreciation method, compliant under Generally Accepted Accounting Principles, that assesses a half year's depreciation to all assets in the year of acquisition regardless of the in-service month. Whether an asset is unitized in January-2019 or December-2019, the asset will be assessed the same ½ of a full year's depreciation, therefore minimizing the impact of the unitization date during the year. Because of the mid-year depreciation convention, unitization dates really only matter when an asset crosses two calendar years. For example, if an asset is unitized in 2020 that could possibly have been unitized in 2019, the asset will record no depreciation in 2019 and six months of depreciation in 2020. However, the asset, if recorded in 2019, would appropriately have recorded six months in 2019, and a full year in 2020; a difference of one year's depreciation. Thus, much of the conversation with Public Staff has been when an asset crosses two calendar years.

Seventh, Public Staff witnesses Henry and Junis testified that the Staff failed to identify and make adjustments for eight projects included in rate base during the W-218, Sub 497 rate case. The Company previously asserted that the accounting process to book capital projects typically takes 30 to 60 days, sometimes longer. Witnesses Henry and Junis stated that, accepting this explanation, the Public Staff did not initially recommend an adjustment. As shown in Henry and Junis Corrected Exhibit 1, the Company unitized the project costs in 2018, months after the assets were placed in service in 2017, which the Public Staff asserts is an unreasonable delay. The list of plant additions in the total amount of over $4.7 million have accumulated one less year of depreciation due to the alleged delay in unitization. According to the Staff, the decreased amount of accumulated depreciation has the effect of increasing rate base that earns a return for the Company. The Public Staff requested that the Commission weigh these facts appropriately as part of its decision-making in the present proceeding.

The Commission has weighed the comments of the Public Staff on this issue and finds no justifiable reason to make a ratemaking adjustment in this case on the basis of the Public Staff's allegations. The Public Staff correctly observes that it failed to identify and propose a ratemaking adjustment in the Sub 497 case and apparently believes that it would be inappropriate for it to now suggest an adjustment in this case. Hindsight is always 20/20. The Public Staff's request that the Commission weigh the Staff's failure in making decisions in this case is misplaced, particularly in view of the Company's consistent and long-standing position regarding the relationship between unitization and the beginning of depreciation. No ratemaking adjustment or other consideration based on the Public Staff's hindsight request to a previously-approved rate base addition is reasonable, warranted, or appropriate under the facts of this case.

Eighth, on page 12 of their prefiled joint testimony, Public Staff witnesses Henry/Junis raise an issue regarding the November 1, 2019 WSIC/SSIC surcharge application, alleging that since January 1, 2020, the Company has been recovering the incremental depreciation expense and capital costs associated with $16,354 (which should have been a credit) through the mechanism surcharges. The Public Staff witnesses stated that they would recommend the excess monies recovered between January 1, 2020, and the date of the rate case order in the present docket be refunded as part of the annual review and EMF as of the end of the year. Further, witnesses Henry/Junis opine that this event is indicative of the Company's inconsistency in following its own accounting procedures.

Aqua NC witness Thill responded to the Public Staff's charge at pages 41 - 44 of his prefiled rebuttal testimony and Thill Rebuttal Exhibit 7. Witness Thill testified that the Public Staff painted a picture of an inflated WSIC/SSIC application by the Company to the financial detriment of its customers. He stated that Aqua NC agrees that adjustments were made in October to reduce the cost of assets included in that application by $16,354. The adjustments were necessary corrections of a system processing error that recorded too much AFUDC in September. It was an inadvertent mistake, appropriately and timely corrected.

However, witness Thill further testified that, contrary to Staff's representation, this information was provided to the Public Staff and was considered in the Staff's presentation for the Commission's approval. Witness Thill provided excerpts from the relevant Order which included specific reference to a revised Appendix B that contained credits for most of the excess AFUDC ($1,829 was inadvertently omitted from the revised schedule). Thill rebuttal Exhibit 7 showed relevant components of the initial filing and the approved Order. Witness Thill testified that the Company is in full agreement that the referenced WSIC/SSIC rates should be subject to recovery by customers of any excess collections, as all WSIC/SSIC adjustments are. However, witness Thill disputed the Staff's claim that this incident is indicative of a variance in the Company's accounting procedures or that this event supports Staff's overall conclusion that a review of procedures is warranted, particularly based on the timely and transparent correction of an inadvertent processing error.

The Commission agrees that Aqua NC's immediate correction of the inadvertent error under discussion and the Company's timely notice to the Public Staff after filing its Application should be part of a normal course of business, not an action to be penalized. The evidence shows that the Company provided the Public Staff, and that the Public Staff in turn provided the Commission, with the appropriately revised schedules which were fully considered in its Order. As such, the Public Staff witnesses are incorrect with regard to their statement that "…since January 1, 2020, the Company has been recovering the incremental depreciation expense and capital costs associated with the $16,354 through the mechanism surcharges." Further, this incident is not indicative of a variance in the Company's accounting procedures and does not support the

Public Staff's overall claim that a review of Aqua NC's accounting procedures is warranted.

Ninth, regarding Aqua NC's response to the specific concerns identified by the Public Staff as supported by Henry and Junis Exhibit 4, witness Thill testified that Henry and Junis Exhibit 4 summarizes Staff's review of assets included in the Company's May 1, 2019 WSIC/SSIC application. During the Public Staff's application review, it identified concerns regarding the in-service dates of several projects and provided the Company an opportunity to review and challenge its conclusions. The Company did not challenge the Staff's conclusion as part of the WSIC/SSIC application, nor does it challenge the adjustment in this rate case. The Public Staff's adjustment concerns modification of in-service dates on assets totaling $1.6 million, with a net reduction to the Company's revenue requirement of approximately $4,400.

Because the Company did not challenge the Public Staff on this adjustment in either the May 2019 WSIC/SSIC surcharge proceeding or in this rate case, there is no issue for the Commission to decide.

Tenth, in their prefiled joint testimony beginning at page 14, Public Staff witnesses Henry/Junis testified that during the post-test year period of October 2019 through March 2020, the Company unitized $20,634,060 of capital expenditures categorized as WSIC/SSIC, Blanket/Routine Replacements, and Non-Routine/Non-WSIC/SSIC. The Public Staff witnesses reviewed the plant records and other supporting documentation. As shown in Henry and Junis Exhibit 5, they adjusted the unitization dates for 44 plant additions in the total amount of

$1,381,871. For the majority of the plant additions listed, the Public Staff changed the date to be the in-service date inputted by the Company and/or a reasonable amount of time after the trailing costs had been sufficiently captured. End of year closings were considered to require the same level of expediency as employed by the Company for its unitizations in September 2019 and March 2020, a majority of which were same month closings. All of the adjustments result in the assets accumulating additional depreciation either in the pending rate case or in future rate cases. In addition, the witnesses testified that they made four project-specific reductions to plant for what they deemed as excessive accrual of AFUDC.[49]

In response, Aqua NC witness Thill testified on rebuttal that the Public Staff's analysis did not take into account the reality of the every-day operations of the utility. According to witness Thill, Henry and Junis Exhibit 5 applied the Public Staff's "*own standard*" in waiving the accepted 30 to 60-day unitization period and changed the depreciation dates for a host of post-test year additions either to the system designated in-service date or, in some cases, an alternative date of its choosing. Having previously expressed its concerns as to possible delays in the unitization of some projects, Staff pivoted to a new argument that because the Company was able to achieve the ideal objective of unitizing <u>some</u> projects in the month placed in service, the Company should be retroactively held to a standard requiring that <u>all</u> projects should have been unitized in the month of

[49] With regard to the four project specific adjustments proposed by the Public Staff, witness Thill stated in his prefiled testimony that the Company conceded to Staff's adjustment on two projects and challenged the adjustments on the other two. However, as part of the stipulated settlement with the Public Staff, the Company accepted the Staff's adjustment to all four projects. This issue is, therefore, moot and need not be addressed any further.

service, notwithstanding accepted policy or its own expressed list of factors that would appropriately delay unitization.

According to witness Thill, missing from the Public Staff's explanation is clarification that it used its own estimate to "correct" the unitization date to either the in-service date inputted by the Company or an earlier date of Staff's determination of a reasonable amount of time after the trailing costs had been sufficiently captured. The Public Staff actually moved the unitization dates in advance of the final vendor payment for ten (10) 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. In each of these 10 cases, the last vendor payment was still in 2019, which matched the revised unitization year, but Staff's presentation serves to exaggerate the unitization lag.

Witness Thill further noted that the unitization dates for 11 of 44 line-items was changed by the Public Staff to a date other than the system in-service date. Staff performed a detailed review of the assets in question but failed to provide that review for rebuttal by the Company in response to a data request from the Company. Witness Thill noted that thirty-two (32) of 44 line-items totaling $1,061,741 (79%) had in-service dates in November or December 2019, and allowing 30 to 60 days to ensure completion, brings those assets into 2020 within policy.

Witness Thill testified that adjustments proposed by the Public Staff and comments in testimony imply that the Company is intentionally delaying unitization to enhance earnings to the detriment of its customers. Staff notes, "All of the adjustments result in the assets accumulating additional depreciation either in the pending rate case or in future rate cases."[50] That comment reads as if 100% of a population, or at least of a representative sample, was found to be in error. Henry and Junis Exhibit 9 shows that asset additions recorded in the first quarter of 2020 totaled nearly $15 million. Staff has raised concerns on $1.4 million (9%), and has rejected past policy of a 30 to 60-day closing period to get to that level. These figures would imply a 91% compliance rate even using the Public Staff's revised unitization criteria. Missing from the picture drawn by Staff's inferences is a more holistic picture of the Company's unitization practices.

Witness Thill testified that his Rebuttal Exhibit 8 shows that of $1.8 million unitized in December 2019 (excluding blankets which automatically unitize in the same month without discretion), $1.6 million have in-service dates either in November or December 2019, which according to policy parameters could have been pushed to 2020 if return, rather than proper accounting, were the Company's primary concern. And further to that point, excluding the anomaly of 2018 spending that led up to that year's rate case, the month of December had the third most unitizations across those four years, including 42% unitized in the same month and 31% within 30 days (i.e. November in-service). March and September top the list for unitizations, but if the Company were truly trying to manipulate unitization practices as implied by Staff, December should be at the bottom of the list, not near the top.

[50] Page 15, lines 13 -15 of prefiled Joint Testimony.

Based on the foregoing evidence, the Commission notes that the Public Staff's current position, as first clearly articulated during the evidentiary hearing, is that depreciation on **all** projects should begin, apparently without exception, on the in-service dates of each project; not the unitization dates. However, as correctly noted by Aqua NC witness Thill in his rebuttal testimony, that policy was not in fact strictly followed by the Public Staff itself in the adjustments to the 44 plant additions which the Staff proposed in this case for those projects.

According to Henry and Junis Exhibit 5, 32 of the 44 projects investigated by the Public Staff were placed in-service by Aqua NC during the fourth quarter of 2019, but were not unitized until the first quarter of 2020. Witness Thill correctly noted that those 32 line-items totaling $1,061,741 (79%) had in-service dates in November or December 2019, and allowing 30 to 60 days to ensure completion, brings those assets into 2020, and within the Company's unitization policy. Those 32 unitizations during the first quarter of 2020, despite being within the window of compliance of the Commission-approved standard, were deemed unacceptable by the Public Staff. The Public Staff also took it upon itself in ten instances out of the other 12 projects to arbitrarily adjust the Company's documented in-service dates retroactively from the first quarter of 2020 back to dates in the fourth quarter of 2019, so as to qualify those projects for Staff's proposed accumulated depreciation adjustment.

There is certainly no specific evidence in the record offered by the Public Staff to justify the ten in-service date adjustments from 2020 to 2019. The

Public Staff's rationale that "End of year closings were considered to require the same level of expediency as employed by the Company for its unitizations in September 2019 and March 2020, a majority of which were same month closings," is arbitrary, ignores long-standing Commission-approved accounting practices, is clearly designed to justify a specific objective, ignores the facts which may complicate specific project closings, and is, therefore, unreasonable on its face.[51] The Public Staff unjustifiably seeks to impose its own subjective judgment in place of the Company's obligation and responsibility to properly close and book projects in a reasonable manner consistent with the Uniform System of Accounts and its long-established and well-known policy of unitizing projects within a 30 to 60-day period after a plant is placed in-service. On the basis of the facts of this case, the Commission cannot accept and approve the Public Staff's proposed adjustment to assign additional accumulated depreciation to any of the 44 projects in question in this or future rate cases.

Finally, Public Staff witnesses Henry/Junis testified at page 8 of their prefiled testimony that the Company's well-documented policy of allowing 30 to 60 days for any trailing costs to be charged to project in-service activity numbers before closing the asset "would be acceptable to the Public Staff if utilized consistently and for an overwhelming majority of its construction work in progress

[51] The Commission notes that, when asked by Aqua (by Question 8 of the Company's Data Request No. 8) to provide justification in support of its decisions to assign its own in-service date to a project or to accept the Company's in-service date as the appropriate unitization date, the Public Staff stated that, due to discovery-related time constraints, the Public Staff could not address each addition and provided what it called "…a more detailed description of the general process utilized to identify and recommend reasonable in-service dates…." Thus, no specific reasoning was set forth in the Public Staff's testimony or data responses for any of its proposed adjustments which would enable either Aqua or the Commission to judge their validity, either collectively or individually.

(CWIP) projects….” The record in this case indicates that, during discovery, the Company provided the Public Staff with information on over 63,00 asset entries for the five-plus year period from 2015 – 2020. Witness Thill testified on rebuttal that, in any given month, the Company is closing as much as $13 million in rate base. The Company's capital expenditures are generally broken down into the following three broad categories (as listed and described on page 9 of the prefiled testimony of Public Staff witnesses Henry/Junis): Blanket/Routine Replacements; WSIS/SSIC Eligible Projects; and Non-Routine, Non-WSIC/SSIC Projects.

According to witness Thill, Blanket funding projects represent a specific category of asset additions with particular characteristics within the Company's Power Plant 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. 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.

Witness Thill testified that, excluding the auto-unitizing Blanket projects, the Company manually unitized an average of 133 line-items per month during the 2015 - 2020 period, and as many as 749 in a single month. Witness Thill described the Company's employment of the mid-year depreciation convention, a commonly used depreciation method which is compliant under Generally Accepted

Accounting Principles, that assesses a half year's depreciation to all assets in the year of acquisition regardless of the in-service month.

It is clear to the Commission that Aqua NC's use of the half-year depreciation convention reasonably serves to minimize the impact of the unitization date during the year. It is also clear to the Commission that, because of the mid-year depreciation convention, unitization dates only matter when an asset crosses a calendar year, which appears to be the crux of the matter as far as the Public Staff is concerned. The Public Staff's entire case is built upon challenging the Company's long-standing and well-known policy that it books and begins to record depreciation once projects are unitized; not when they are placed in-service.

The Public Staff contends that it has demonstrated the Company's failure to utilize the approved practice of unitizing assets within 30 to 60 days "consistently and for an overwhelming majority of its construction work in progress (CWIP) projects." Even if we were to ignore all of the Company's objections to the Public Staff's adjustments, the Commission notes the limited frequency as well as the relatively small dollar value of those projects compared to the 63,000 records and $159 million in total additions reviewed in this case, and hereby finds and concludes that Aqua NC meets even the Public Staff's test that its unitization process applies to an "overwhelming majority" of the Company's CWIP projects.

The Commission also gives credence to witness Thill's testimony, as supported by Thill Rebuttal Exhibit 8, that $1.6 million (or approximately 89%) of the $1.8 million of plant assets unitized in December 2019, have in-service dates either in November or December 2019, which according to the 30 to 60-day policy parameters could have been pushed to 2020 by Aqua NC if return, rather than proper accounting, was the Company's driving concern. Further supporting this conclusion is witness Thill's statement, supported by Public Staff's own Becker Direct Cross Examination Exhibit 5, that December is the month with the third highest value of unitizations in the 2015 - 2019 period (excluding 2018's rate case anomaly). As witness Thill notes, if the company were truly trying to manipulate unitization practices as implied by Staff, December should be at the bottom of the list, not near the top. There is nothing in the evidence in this case to support even an inference that Aqua NC's unitization practices are in any way driven by a desire to achieve a "financial windfall" or that the Company is intentionally delaying unitization to enhance earnings to the detriment of its customers.

Coda

Accordingly, the Commission concludes that, except to the extent agreed and stipulated to by Aqua NC in this case, no further adjustments to the Company's accumulated depreciation levels should be made in either this or future rate cases based upon the testimony offered in this proceeding by the Public Staff. Aqua NC has carried the burden of proof in support of its UPIS and unitization practices and procedures and should not be penalized any further.

In addition, the Commission notes the validity of Aqua NC's claims regarding the rate lag which is inherent in the ratemaking process as that lag pertains, in particular, to issues such as depreciation. Aqua NC's last general rate case (Sub 497) included assets unitized through June 30, 2018. In this rate case, the Company notified the Commission and its customers that it would place temporary, interim rates into effect, subject to an undertaking to refund, effective for service rendered on and after July 30, 2020. Thus, for a new plant asset unitized, for example, in the month of July 2018, Aqua NC will have recorded 25 months of depreciation on its books for that asset before recovery begins via interim rates in August 2020.

That depreciation expense recorded on assets placed in service between rate cases, although recorded by the Company, is never recovered from its customers. Further, that depreciation, though not recovered, is added to the accumulated depreciation balance that reduces the Company's rate base in all future rate cases and until that asset is retired. As a result, a portion of those July 2018 expenditures will never be recovered by Aqua NC through its Commission-authorized rates; nor will any of the financing costs during those 25 months. This regulatory lag presents challenges to Aqua NC's reasonable opportunity to earn its authorized return, as discussed by Company witness Becker. Public Staff Henry and Junis Exhibit 11 allows us to calculate that the Company has added nearly $57 million in UPIS during the timeframe covered by this rate case (July 2018 to March 2020). The Company will incur a deleterious effect on its rate of return for each of those plant additions totaling an investment of $57 million, with a minimum of four months and as many as 25 months of regulatory lag.

Aqua NC also had eleven post-test year plant projects totaling $3.0 million which were complete, in-service, and unitized during the months of April and May 2020 and, although eligible for inclusion in rate base in this case, were excluded from such cost recovery as part of the stipulated settlement reached by the Company and the Public Staff. Thus, Aqua NC will experience rate lag related to cost recovery for those eleven plant assets as well until they can be placed in rates in either an upcoming WSIS/SSIC proceeding or the Company's next general rate case.

The point of this discussion is to acknowledge that, due to regulatory lag, the depreciation process in regulatory accounting begins in favor of the customer. Depreciation represents the utility's recovery of funds advanced for the benefit of its customers, analogous to a loan payment. The authorized return on rate base recognizes the cost of capital associated with that advance, whether that cost be the interest on borrowed funds or the return on shareholder investment. To the extent rate lag produces a time period for which customers receive the benefit of an asset but are responsible for neither the "loan payment" nor any interest, customers receive a permanent financial benefit to the detriment of the utility. Lag on new purchases always exists and therefore customers are always advantaged by this process.

The Uniform System of Accounts establishes a foundation of practicability, and the Commission has historically accepted the same in allowing reasonable flexibility for unitizations. Any reasonable leniency created by the practicability foundation has the effect of reducing lag and therefore reducing the customer advantage but does not serve to fully eliminate the advantage. Thus, the Commission is confident that the decision in this case regarding the UPIS and unitization issues raised by the Public Staff is fair to both Aqua NC and its customers.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 60 - 70
(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.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 71 - 73
(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 effective date of this Order. 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. 74 - 76
(Rate Schedules and Overall Conclusions)

The Commission, having carefully reviewed the Partial Settlement Agreement and Stipulation and all of the evidence of record, finds and concludes: that the Stipulation is the product of the give-and-take settlement negotiations between Aqua NC and the Public Staff; that it constitutes material evidence; that it is entitled to be given appropriate weight in this proceeding, along with all other evidence in the record; and that it is fully supported by competent evidence in the record. Accordingly, based on the foregoing findings of fact and the entire record in this proceeding, the Commission concludes that all of the provisions of the

Stipulation, which are incorporated herein by reference, are just and reasonable and should be approved.

The Rate Schedules attached to this Order are approved effective for service rendered on and after the date of this Order.

IT IS, THEREFORE, ORDERED as follows:

1. That the provisions of the Partial Settlement Agreement and Stipulation are incorporated by reference herein and are hereby approved in their 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 ______ are hereby approved and deemed to be filed with the Commission pursuant to G.S. 62-138.

4. That the Schedules of Rates, attached hereto as Appendices ______ 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 ________ 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 10 days after the Notices to Customers are mailed or hand delivered to customers.

7. That the Partial Settlement Agreement and Stipulation, and the parts of this Order pertaining to the contents thereof, shall not be cited or treated as precedent in future proceedings.

8. That all late-filed exhibits filed by Aqua NC and the Public Staff are hereby admitted in evidence.

ISSUED BY ORDER OF THE COMMISSION.

This the ______ day of __________________, 2020.

NORTH CAROLINA UTILITIES COMMISSION

____
Kimberley A. Campbell, Chief Clerk

Proposed
SCHEDULE OF RATES
(Including Conservation Pilot Program)

for

AQUA NORTH CAROLINA, INC

for providing water and sewer utility service in

ALL ITS SERVICE AREAS IN NORTH CAROLINA

WATER UTILITY SERVICE

All North Carolina Service, 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
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 /1,000 gallons $ 6.38
All service areas unless noted differently below

Arbor Run, Bayleaf, Merion and Pebble Bay Subdivisions

Tiered usage charge/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/1,000 gallons (irrigation meters)

1 - 15,000 gallons	$ 9.32
15,001+ gallons	$12.42

Usage charges where water is purchased from water provider for resale:

Service Area	Water Provider	Usage /1,000 gals
Twin Creeks	City of Asheville	$4.96
Heather Glen and Highland on the Point	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 (inside)	$3.25
Heritage Farms	City of Hickory (inside)	$3.25
Cedarwood Estates	City of Hickory (inside)	$3.25
Hill-N-Dale	City of Lincolnton	$9.21
East Shores	City of Morganton	$2.51
Greenfield	City of Mt. Airy	$6.69
Bett's Brook	City of Newton	$3.29
Crestwood	Davidson Water Co.	$4.76
Lancer Acres	Davidson Water Co.	$4.76
Beard Acres	Davidson Water Co.	$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
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
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/REU: 1/
All service areas unless noted differently below

Residential Rate	$ 46.22
Commercial Rate	$ 73.63

Brookwood (Cumberland and Hoke Counties) Service Areas

Monthly Metered Service (residential and commercial customers):

Base facility charge (zero usage based on meter size)

<1" meter	$ 16.01
1" meter	$ 40.03
1 1/2" meter	$ 80.05
2" meter	$128.08
3" meter	$240.15
4" meter	$400.25
6" meter	$800.50

Usage charge/1,000 gallons $ 4.57

Usage charges where water is purchased from water provider for resale:

Service Area	Water Provider	Usage /1,000 gals
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

Service Area	Water Provider	Usage /1,000 gals
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: 1/
All service areas unless noted differently below

Residential Rate	$ 37.24
Commercial Rate	$ 52.56

Fairways Service Areas

Monthly Metered Service (residential and commercial customers):

Base facility charge (zero usage based on meter size)

<1” meter	$ 8.56
1” meter	$ 21.40
1 1/2” meter	$ 42.80
2” meter	$ 68.48
3” meter	$128.40
4” meter	$214.00
6” meter	$428.00

Tiered usage charge/1,000 gallons for residential customers

1 - 5,000 gallons	$0.62
5,001 - 10,000 gallons	$1.24
10,001 - 20,000 gallons	$2.17
20,001+ gallons	$3.10

Tiered usage charge/1,000 gallons (irrigation meters)

1 - 20,000 gallons	$2.17
20,001+ gallons	$3.10

Usage charge/1,000 gallons (commercial) $1.55

Monthly Unmetered Service/REU: 1/
All service areas unless noted differently below

Residential Rate	$ 17.91
Commercial Rate	$ 23.61

OTHER WATER SERVICE CHARGES AND FEES

Reconnection Charges: 2/

If water service cut off by Aqua NC for good cause:	$35.00
If water service discontinued at customer's request:	$15.00

Connection Charges (*Note: In some areas, connection charges may not apply pursuant to contract properly filed with the Commission. In addition, Aqua NC has numerous specific Subdivision connection charges that Aqua NC is not seeking to change as a result of this proceeding and were approved in prior cases. A comprehensive listing of these fees is currently being compiled and will be filed as a supplement to the schedule of rates during this proceeding.):*

<1" meter -

For taps made to existing mains installed inside franchised service area: 3/	$800.00
For individual connections outside Franchised service area: 4/	Actual cost of installation 5/
1" meter or larger:	120% of actual cost of making tap, including setting meter and box.

Meter Installation Fee: 4/ $70.00

(Note: The fee will be charged only where cost of meter installation is not otherwise recovered through connection charges.)

Reconnection Charges:

If water service cut off by Aqua NC for good cause:	$35.00
If water service discontinued at customer's request:	$15.00

Production and Storage Contribution in Aid of Construction Fee: 4/ $1,700 per REU

For individual connections where lot owner has made no contribution in aid of construction and lot was not included in original franchised service area

Billing Service Charge**:** 6/ $ 2.00/month/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 North Carolina Service, Except as Noted Below

Monthly Unmetered Service:
All service areas unless noted differently below

Residential Rate	$ 76.07
Commercial Rate	$106.48

Commercial Monthly Service, including all Parkway Crossing and Park South Service Areas (Based on metered water usage):

Base facility charge, based on water meter size*:
All service areas unless noted differently below

<1" meter	$ 26.57
1" meter	$ 66.43
1 1/2" meter	$ 132.85
2" meter	$ 212.56
3" meter	$ 398.55
4" meter	$ 664.25
6" meter	$1,328.50

*Bulk wastewater customers with wastewater meters will be charged fifty percent of the sum of all contributory water meter base facility charges.

Usage charge/1,000gallons: $ 9.90
All service areas unless noted differently below

Parkway Crossing and Park South Service Area

Base facility charge:	As shown above
Usage charge/1,000 gallons	$ 6.45

Hawthorne at the Greene Apartments and Beaver Farms Subdivision in Mecklenburg County, North Carolina

Base facility charge/REU (W-218, Sub 517)	$47.94 (collected for Carolina Water)
Usage charge/1,000gallons:	$ 6.75

Fairways Service Areas

<u>Monthly Unmetered Service:</u>
All service areas unless noted differently below

Residential Rate	$ 57.66
Commercial Rate	$ 89.36

<u>Commercial Service (Monthly, based on metered water usage):</u>

Base facility charge (based on water meter size)	
<1" meter	$ 19.95
1" meter	$ 49.88
1 1/2" meter	$ 99.75
2" meter	$ 159.60
3" meter	$ 299.25
4" meter	$ 498.75
6" meter	$ 997.50
Usage charge/1,000gallons	$ 9.06

OTHER WASTEWATER SERVICE CHARGES AND FEES

<u>Grinder Pump Installation Fee – Governors Club Subdivision</u>: Actual Cost
(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 <u>Grinder Pump Installation In-house Procedures</u>, 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>Sewer Plant Capacity Fee per GPD (DENER Design Requirements) – River Park Development:</u>

Sewer Plant Capacity Fee/GPD(See W-218, Sub 143):	$10.00

<u>Reconnection Charges:</u> 2/

If sewer service cut off by Aqua NC for good cause by disconnecting water:	$35.00
If sewer service cut off by Aqua NC for good cause by any method other than noted above:	Actual Cost 7/

<u>Grease Traps:</u>

Aqua NC 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>Collection Service Only</u>:

$9.45/month/SFE

This is a charge where the Aqua NC collects the wastewater at an 'entry point' adjacent to or near the Company's existing collection mains and allows the wastewater to be transferred to another entity for treatment via the Aqua NC's existing collection facilities. The Aqua NC shall not be responsible for any maintenance or repairs of the collection facilities prior to the 'entry point'. The Aqua NC may also charge and collect for the treatment provided by the other entity. That rate will be the rate established by the Commission for the other entity and will be turned over to the other entity once collected.

OTHER MATTERS

<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

Finance Charge for Late Payment: 1% per month will be applied to the unpaid balance of all bills still past due 25 days after billing date.

Water and Wastewater System Improvement Charge (WSIC)

The Water and Wastewater System Improvement Charge (WSIC) Percentage set forth on this schedule is applicable where clearly denoted on this rate schedule, and this percentage shall be added to the service charges billed. This percentage shall be limited to no more than 5.0%. Changes to the WSIC shall be occasioned by filings pursuant to G.S. 62-133.12.

WSIC Percentage Rate: 0.00%

Availability Rates

Woodlake Subdivision
Water: $5.00/month
Sewer: $3.75/month

Governors Village Subdivision, Governors Forest Subdivision, Governors Village Townhomes:
Sewer: $150.00/residential lot/year

Governors Club:
Sewer: $20.00/month

1/ Aqua NC, at its expense, may install a meter and charge the metered rate.

2/ 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.

3/ 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.

4/ 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 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 (pursuant to 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 a tap and an 8.5” x 11” map showing the location of the tap in relation to the 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.

5/ 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 cost. Aqua NC shall give a written cost quote to the customer(s) applying for connection before actually beginning the installation of the work.

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 emergency operator $2.00 per month per bill for providing this service.

7/ If sewer disconnection is required, after all reasonable efforts by Aqua NC, to encourage the customer to comply with the provisions of the tariff have been made, Aqua NC may install a valve or other device appropriate to cut off or block the customer’s sewer line.

Prior to disconnection, Aqua NC shall give the customer written notice at least seven days prior to disconnection. Said notice shall include, at the minimum, a copy of this reconnection provision and the estimated cost to make the cut off and install the valve or other device.

In the event an emergency or dangerous condition is found or if 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 appropriate fees (for example, a deposit if required by Aqua NC), Aqua NC shall restore the service with three business days.

Proposed

SCHEDULE OF RATES
(Excluding Conservation Pilot Program)

for

AQUA NORTH CAROLINA, INC

for providing water and sewer utility service in

ALL ITS SERVICE AREAS IN NORTH CAROLINA

WATER UTILITY SERVICE

All North Carolina Service, 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
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 /1,000 gallons $ 6.38
All service areas unless noted differently below

Usage charges where water is purchased from water provider for resale:

Service Area	Water Provider	Usage /1,000 gals
Twin Creeks	City of Asheville	$4.96
Heather Glen and Highland on the Point	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 (inside)	$3.25
Heritage Farms	City of Hickory (inside)	$3.25
Cedarwood Estates	City of Hickory (inside)	$3.25
Hill-N-Dale	City of Lincolnton	$9.21
East Shores	City of Morganton	$2.51
Greenfield	City of Mt. Airy	$6.69
Bett's Brook	City of Newton	$3.29
Crestwood	Davidson Water Co.	$4.76
Lancer Acres	Davidson Water Co.	$4.76
Beard Acres	Davidson Water Co.	$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
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
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

<u>Monthly Unmetered Service/REU:</u> 1/
All service areas unless noted differently below

Residential Rate	$ 46.22
Commercial Rate	$ 73.63

Brookwood (Cumberland and Hoke Counties) Service Areas

Monthly Metered Service (residential and commercial customers):

Base facility charge (zero usage based on meter size)

<1” meter	$ 16.01
1” meter	$ 40.03
1 1/2” meter	$ 80.05
2” meter	$128.08
3” meter	$240.15
4” meter	$400.25
6” meter	$800.50

Usage charge/1,000 gallons $ 4.57

Usage charges where water is purchased from water provider for resale:

Service Area	Water Provider	Usage /1,000 gals
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: 1/
All service areas unless noted differently below

Residential Rate	$ 37.24
Commercial Rate	$ 52.56

Fairways Service Areas

Monthly Metered Service (residential and commercial customers):

Base facility charge (zero usage based on meter size)

<1" meter	$ 8.56
1" meter	$ 21.40
1 1/2" meter	$ 42.80
2" meter	$ 68.48
3" meter	$128.40
4" meter	$214.00
6" meter	$428.00

Usage charge/1,000 gallons $1.55

Monthly Unmetered Service/REU: 1/
All service areas unless noted differently below

Residential Rate	$ 17.91
Commercial Rate	$ 23.61

OTHER WATER SERVICE CHARGES AND FEES

Reconnection Charges: 2/

If water service cut off by Aqua NC for good cause: $35.00
If water service discontinued at customer's request: $15.00

Connection Charges (*Note: In some areas, connection charges may not apply pursuant to contract properly filed with the Commission. In addition, Aqua NC has numerous specific Subdivision connection charges that Aqua NC is not seeking to change as a result of this proceeding and were approved in prior cases. A comprehensive listing of these fees is currently being compiled and will be filed as a supplement to the schedule of rates during this proceeding.*):

<1" meter -

For taps made to existing mains installed inside franchised service area: 3/ $800.00

For individual connections outside Franchised service area: 4/ Actual cost of installation 5/

1" meter or larger: 120% of actual cost of making tap, including setting meter and box.

Meter Installation Fee: 4/ $70.00

(Note: The fee will be charged only where cost of meter installation is not otherwise recovered through connection charges.)

Reconnection Charges:

If water service cut off by Aqua NC for good cause:	$35.00
If water service discontinued at customer's request:	$15.00

Production and Storage Contribution in Aid of Construction Fee: 4/ $1,700 per REU

For individual connections where lot owner has made no contribution in aid of construction and lot was not included in original franchised service area

Billing Service Charge**:** 6/ $ 2.00/month/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 North Carolina Service, Except as Noted Below

Monthly Unmetered Service:
All service areas unless noted differently below

Residential Rate	$ 76.07
Commercial Rate	$106.48

Commercial Monthly Service, including all Parkway Crossing and Park South Service Areas (Based on metered water usage):

Base facility charge, based on water meter size*:
All service areas unless noted differently below

<1" meter	$ 26.57
1" meter	$ 66.43
1 1/2" meter	$ 132.85
2" meter	$ 212.56
3" meter	$ 398.55

4” meter	$ 664.25
6” meter	$1,328.50

*Bulk wastewater customers with wastewater meters will be charged fifty percent of the sum of all contributory water meter base facility charges.

Usage charge/1,000gallons: $ 9.90
All service areas unless noted differently below

Parkway Crossing and Park South Service Area

Base facility charge:	As shown above
Usage charge/1,000 gallons	$ 6.45

Hawthorne at the Greene Apartments and Beaver Farms Subdivision in

Mecklenburg County, North Carolina

Base facility charge/REU (W-218, Sub 517)	$47.94 (collected for Carolina Water)
Usage charge/1,000gallons:	$ 6.75

Fairways Service Areas

<u>Monthly Unmetered Service:</u>
All service areas unless noted differently below

Residential Rate	$ 57.66
Commercial Rate	$ 89.36

<u>Commercial Service (Monthly, based on metered water usage):</u>

Base facility charge (based on water meter size)

<1” meter	$ 19.95
1” meter	$ 49.88
1 1/2” meter	$ 99.75
2” meter	$ 159.60
3” meter	$ 299.25
4” meter	$ 498.75
6” meter	$ 997.50

Usage charge/1,000gallons $ 9.06

OTHER WASTEWATER SERVICE CHARGES AND FEES

Grinder Pump Installation Fee – Governors Club Subdivision: Actual Cost
(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.

Sewer Plant Capacity Fee per GPD (DENER Design Requirements) – River Park Development:

Sewer Plant Capacity Fee/GPD(See W-218, Sub 143): $10.00

Reconnection Charges: 2/

If sewer service cut off by Aqua NC for good cause by disconnecting water: $35.00

If sewer service cut off by Aqua NC for good cause by any method other than noted above: Actual Cost 7/

Grease Traps:

Aqua NC 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.

Collection Service Only:

$9.45/month/SFE

This is a charge where the Aqua NC collects the wastewater at an 'entry point' adjacent to or near the Company's existing collection mains and allows the wastewater to be transferred to another entity for treatment via the Aqua NC's existing collection facilities. The Aqua NC shall not be responsible for any maintenance or repairs of the collection facilities prior to the 'entry point'. The Aqua NC may also charge and collect for the treatment provided by the other entity. That rate will be the rate established by the Commission for the other entity and will be turned over to the other entity once collected.

OTHER MATTERS

Returned Check Charge:	$25.00
Bills Due:	On billing date
Billing Frequency:	Monthly for service in arrears
Bills Past Due:	15 days after billing date
Finance Charge for Late Payment:	1% per month will be applied to the unpaid balance of all bills still past due 25 days after billing date.

Water and Wastewater System Improvement Charge (WSIC)

The Water and Wastewater System Improvement Charge (WSIC) Percentage set forth on this schedule is applicable where clearly denoted on this rate schedule, and this percentage shall be added to the service charges billed. This percentage shall be limited to no more than 5.0%. Changes to the WSIC shall be occasioned by filings pursuant to G.S. 62-133.12.

WSIC Percentage Rate: 0.00%

Availability Rates

Woodlake Subdivision
Water: $5.00/month
Sewer: $3.75/month

Governors Village Subdivision, Governors Forest Subdivision, Governors Village Townhomes:
Sewer: $150.00/residential lot/year

Governors Club:
Sewer: $20.00/month

1/ Aqua NC, at its expense, may install a meter and charge the metered rate.

2/ 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.

3/ 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.

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CERTIFICATE OF SERVICE

I hereby certify that I have served a copy of the foregoing **Proposed Order and Appendices,** filed by Aqua North Carolina, Inc. in Docket No. W-218, Sub 526, on the parties of record in accordance with North Carolina Utilities Commission Rule R1-39, either by United States mail, first class postage pre-paid; by hand delivery; or by means of electronic delivery upon agreement of the receiving party.

This the 17th day of August 2020.

Electronically Submitted
/s/Jo Anne Sanford
North Carolina State Bar No. 6831

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