

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. W-218, SUB 573

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of
Application by Aqua North Carolina,)
Inc., 202 MacKenan Court, Cary, North) PUBLIC STAFF'S PROPOSED ORDER
Carolina 27511, for Authority to Adjust) APPROVING PARTIAL SETTLEMENT
and Increase Rates for Water and) AGREEMENT AND STIPULATION,
Sewer Utility Service in All Its Service) DECIDING CONTESTED ISSUES,
Areas in North Carolina and for) GRANTING PARTIAL RATE INCREASE,
Approval of a Water and Sewer) AND REQUIRING CUSTOMER NOTICE
Investment Plan)

HEARD: Tuesday, October 4, 2022, at 7:00 p.m., Commission Hearing Room
2115, Dobbs Building, 430 North Salisbury Street, Raleigh, North
Carolina

Thursday, October 20, 2022, at 6:30 p.m., by virtual means using the
Webex electronic platform

Wednesday, October 26, 2022, at 7:00 p.m., New Hannover County
Courthouse, Courtroom 317, 316 Princess Street, Wilmington, North
Carolina

Thursday, October 27, 2022, at 7:00 p.m., Gaston County
Courthouse, County Commission Public Forum Room, 2nd Floor,
325 Dr. Martin Luther King, Jr. Way, Gastonia, North Carolina

Monday, January 9, 2023, at 2:00 p.m., and continuing as required
through Friday, January 13, 2023, Commission Hearing Room 2115,
Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina

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

APPEARANCES:

For Aqua North Carolina, Inc.:

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Raleigh, North Carolina 27611-8085

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2800, Raleigh, North Carolina 27601

For the Using and Consuming Public:

Megan Jost, Reita D. Coxton, William S.F. Freeman, and William E.
Grantmyre, Staff Attorneys, Public Staff – North Carolina Utilities
Commission, 4326 Mail Service Center, Raleigh, North Carolina
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BY THE COMMISSION: On May 27, 2022, pursuant to Rule R1-17(a) of the North Carolina Utilities Commission (Commission or NCUC) Aqua North Carolina, Inc. (Aqua or the Company) filed a letter notifying the Commission of its intent to file an application for a general rate case. On June 30, 2022, Aqua filed an application with the Commission for authority to adjust and increase rates for water and sewer utility service in all of its North Carolina service areas, approval of a water and sewer investment plan pursuant to N.C. Gen. Stat. § 62-133.1B and Commission Rule R1-17A, and authorization to modify certain terms and conditions for the provision of water and sewer utility service (Application), effective for service rendered on and after July 30, 2022. Included with this Application was certain information and data required by NCUC Form W-1, along with the direct testimony and exhibits of Aqua witnesses Shannon V. Becker, Dylan W. D'Ascendis, Dean R. Gearhart, P. David Haddad, and John J. Spanos.

On July 15, 2022, the Public Staff notified Aqua, by deficiency letter filed with the Commission, of its determination that additional enumerated information was necessary to complete its Application as required by Commission Rule R1-17.

On July 20, 2022, Aqua filed, in response to the Public Staff's deficiency letter, a Rule R1-17F supplemental compliance filing with the Commission.

On July 26, 2022, the Commission issued its Order Establishing General Rate Case and Suspending Rates. The Order declared the matter a general rate case, suspended the Company's proposed rates for up to 270 days, and established the test year period as the 12-month period ending December 31, 2021.

On August 16, 2022, the Public Staff and Aqua made filings recommending deadlines for certain procedural milestones in the rate case. On September 8, 2022, the Commission issued its Order Scheduling Hearing, Establishing Discovery Guidelines, and Requiring Customer Notice (Scheduling Order). Among other things, the Scheduling Order directed Aqua to file updates to its actual revenues, expenses, rate base, and cost of capital for the period ending August 31, 2022, on or before September 21, 2022, and established the dates, times, and locations for four public witness hearings to take place in October 2022 and an evidentiary hearing to begin on January 9, 2023.

On September 21, 2022, Aqua filed rate case updates through July 31, 2022, along with supporting schedules.

On September 23, 2022, Aqua filed its Certificate of Service of Public Notice.

On October 21, 2022, Aqua filed rate case updates through August 31, 2022, along with supporting schedules.

On October 24, November 9, and November 15, 2022, Aqua filed its reports on customer testimony received at the public hearings held in Raleigh, Wilmington, Gastonia, and by virtual hearing.

On October 19 and 24, 2022, the Public Staff filed its Motion of the Public Staff Regarding Aqua Updates, and its Amended Motion of the Public Staff Regarding Aqua Updates, respectively, wherein the Public Staff moved that the Commission grant certain deadline extensions to the Public Staff due to Aqua's failure to timely file updates in violation of the Scheduling Order, and also moved that the Commission not grant commensurate deadline extensions to the Company.

On October 26, 2022, Aqua filed its Response to the Amended Motion of the Public Staff Regarding Aqua Updates, requesting that the Commission deny the Public Staff's Amended Motion or grant appropriate and commensurate extensions to both parties.

On November 4, 2022, the Commission issued an order denying the Public Staff's request for extensions of time to certain deadlines due to the Company's failure to timely file its rate case updates.

On November 18, 2022, Aqua filed further rate case updates, along with supporting schedules.

On November 22, 2022, Aqua filed an Objection to Public Staff Data Request No. 107.

On December 2, 2022, the Public Staff filed a Motion for Extension of Time to file certain portions of its testimony and exhibits due to unforeseen technology issues affecting the Public Staff's ability to access and update schedules that constituted an essential part of its testimony regarding Aqua's proposed Water and Sewer Investment Plan (WSIP).

Also on December 2, 2022, the Public Staff filed the direct testimony and exhibits of its witnesses John R. Hinton, Shashi M. Bhatta, Lindsay Q. Darden, D. Michael Franklin, Evan M. Houser, and Jay B. Lucas, and the joint testimony of its witnesses Lynn Feasel, June Chiu, and Michelle M. Boswell (collectively, the Public Staff Accounting Panel).

On December 5, 2022, the Public Staff filed its joint testimony of witnesses Boswell, Hinton, Kuei Fen Sun, Fenge Zhang, and Charles M. Junis (collectively,

the Public Staff WSIP Panel), along with Public Staff Darden Exhibits 8 through 12.

Also on December 5, 2022, the Commission granted the Public Staff's motion for extension of time, nunc pro tunc, to file its WSIP testimony and exhibits.

On December 13, 2022, the Public Staff filed its supplemental joint testimony of witnesses Feasel, Chiu, and Boswell regarding Corrected Accounting Exhibit I; supplemental joint testimony of witnesses Boswell, Hinton, Sun, Zhang, and Junis regarding Public Staff Corrected WSIP Exhibit I; Corrected Exhibits 8 through 12 of witness Darden for Rate Years 1 through 3; Corrected Exhibit 2 of witness Franklin; and corrected page 29 of the joint testimony of witnesses Boswell, Hinton, Sun, Zhang, and Junis.

On December 19, 2022, Aqua filed its rebuttal testimony of Company witnesses Amanda A. Berger, Daniel T. Franceski, D'Ascendis, Michael Melton; the joint rebuttal testimony of Company witnesses Joseph Pearce, Berger, Melton, and Becker (collectively, the Aqua PBM Panel); and the joint rebuttal testimony of Company witnesses Becker, William Packer, Whitney Kellett, and Melton (collectively, the Aqua WSIP Panel).

On December 20, 2022, Aqua filed its joint rebuttal testimony of Company witnesses Gearhart and Haddad.

On January 3, 2023, Aqua filed the witness list for the January 9, 2023 evidentiary hearing, the order of examination, and the estimated cross-examination times.

On January 4, 2023, Aqua filed a request on behalf of the Company and the Public Staff to excuse Aqua witness Spanos and Public Staff witnesses Chiu and Sun from the requirement to appear in person to testify at the January 9, 2023 evidentiary hearing.

Also On January 4, 2023, Aqua filed its Late-Filed Exhibit 1 to the joint rebuttal testimony of its witnesses Gearhart and Haddad.

On January 5, 2023, the Commission issued an order excusing Aqua witness Spanos and Public Staff witnesses Chiu and Sun from attending the evidentiary hearing and requesting an updated expert witness list.

Also on January 5, 2023, Aqua filed a proposed expert witness list with a revised order of examination and waivers of cross-examination.

On January 9, 2023, Aqua filed the Company's Exhibit 8 to the testimony of its WSIP Rebuttal Testimony Panel.

Also on January 9, 2023, the evidentiary hearing was convened as scheduled in Raleigh, North Carolina. The evidentiary hearing concluded on January 13, 2023.

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

On January 19, 2023, the Commission issued a Notice of Due Date for Proposed Orders and/or Briefs directing the parties to file proposed orders and/or briefs no later than February 20, 2023.

On January 26, 2023, Aqua filed a Notice of Intent to Place Temporary Rates in Effect Subject to an Undertaking to Refund Pursuant to N.C. Gen. Stat. § 62-135 and Request for Approval of Notice and Undertaking (Notice of Temporary Rates).

On February 2, 2023, the Public Staff filed a letter addressing several concerns with the Company's notice of temporary rates. The Public Staff filed a correction to its letter on February 3, 2023.

On February 3, 2023, Aqua filed its Reply to Public Staff Letter on Temporary Rates.

Also on February 3, 2023, the Public Staff filed a letter of correction regarding temporary rates.

On February 6, 2023, the Commission issued its Order Approving Public Notice of Temporary Rates Subject to an Undertaking to Refund.

On February 7, 2023, Aqua filed a Motion for Expedited Approval to Change Dates for Temporary Rates and the Related Customer Notices.

Also on February 7, 2023, the Public Staff filed a letter requesting that the Commission authorize temporary rates no earlier than February 19, 2023.

Also on February 7, 2023, the Commission issued its Order Granting Motion to Adjust Dates for Implementation of Temporary Rates Under Bond and Approving Revised Notices to Customers. The revised notices stated that temporary rates would be effective for service on and after February 19, 2023.

On February 13, 2023, the Public Staff filed a motion requesting that the Commission extend the deadline for filing proposed orders and briefs to March 20, 2023.

On February 16, 2023, Aqua contacted the Commission indicating that the Company agreed to waive its right to seek to implement its original proposed rates by operation of N.C.G.S. § 62-134(b) for a period of four weeks, corresponding to the four-week extension requested by the Public Staff.

Also on February 16, 2023, the Commission issued its Order Granting Extension of Time to File Proposed Orders and Brief extending the time to file proposed orders and/or briefs to March 20, 2023, and accepting Aqua's waiver of

its rights to seek to implement its original proposed rates by operation of N.C.G.S. § 62-134(b) for a period of four weeks.

On March 17, 2023, the Parties filed a joint motion requesting an extension of time until March 31, 2023, to file their proposed orders and a Stipulation of Partial Settlement.

On March 20, 2023, Aqua filed a supplement to the joint motion, indicating that the Company agreed to waive its right to seek to implement its original proposed rates by operation of N.C.G.S. § 62-134(b) for an additional eleven days beyond the waiver it made in conjunction with the extension of time granted on February 16, 2023.

Also on March 20, 2023, the Commission issued its Order Granting Extension of Time to File Proposed Orders and Scheduling Hearing directing the Parties to file proposed orders and Stipulation of Partial Settlement on or before March 31, 2023; accepting Aqua's waiver of its right to seek to implement its original proposed rate by operation of N.C.G.S. § 62-134(b) on or after June 5, 2023; and scheduling a hearing to receive testimony from the Parties related to the Parties' Stipulation of Partial Settlement and remaining contested issues on Monday, April 10, 2023.

On March 30, 2023, the Public Staff filed Supplemental WSIP Exhibit 7.

On March 31, 2023, the Public Staff and the Company filed a Stipulation of Partial Settlement (Stipulation), and their respective proposed orders.

Also on March 31, 2023, Aqua filed the Settlement Testimony of Shannon V. Becker and Joint Settlement Testimony of Dean R. Gearhart and David Haddad in support of the Stipulation.

Also on March 31, 2023, the Public Staff filed the Joint Testimony of Lynn Feasel and Charles M. Junis Supporting Partial Settlement Agreement and Stipulation.

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

FINDINGS OF FACT

General Matters

1. Aqua is a corporation duly organized under the laws of North Carolina and is authorized to do business in the State. It is a franchised public utility providing water and sewer utility service to customers in North Carolina.

Aqua is a wholly owned subsidiary of Essential Utilities, Inc. (Essential Utilities), located in Bryn Mawr, Pennsylvania.

2. Aqua is subject to the jurisdiction of the Commission pursuant to Chapter 62 of the North Carolina General Statutes for adjudication of Aqua's Application for a rate increase and approval to establish and implement a Water and Sewer Investment Plan (WSIP), and for a determination of the justness and reasonableness of Aqua's proposed rates for its water and sewer utility operations in North Carolina.

3. The appropriate Base Case period for use in this proceeding is the 12-month test period ending on December 31, 2021, updated for known and measurable changes through August 31, 2022, and including adjustments to regulatory commission expense up to the close of the expert witness hearing.

4. Aqua's last general rate case was decided by Commission Order entered on October 26, 2020, in Docket No. W-218, Sub 526 (Sub 526 Rate Case Order).¹ The Commission has since approved four increases in the Company's rates for water and sewer service in all the Company's service areas by an Order Approving Water and Sewer System Improvement Charges on a Provisional Basis and Requiring Customer Notice issued in Docket No. W-218, Sub 526A on January 4, 2020, November 1, 2021, January 26, 2022, and June 21, 2022. On February

¹ Pass-through rate increases for various purchased water and purchased sewer systems have been approved pursuant to N.C.G.S. § 62-133.11, subsequent to the Sub 526 Rate Case Order.

19, 2023, after appropriate customer notice, Aqua placed new rates into effect in its five rate divisions on a partial, temporary basis as allowed pursuant to N.C.G.S. § 62-135. Any amounts of such temporary rates that may be finally determined by the Commission to be excessive are subject to refund with interest at a rate of 10% per annum.

The Rate Case Application

5. In summary, by its Application, supporting documents, and additional updates filed on subsequent dates during the proceeding, Aqua sought Commission approval of a multi-year rate increase under a WSIP, as provided in N.C.G.S. § 62-133.1B (WSIP Statute) and Commission Rule R1-17A (WSIP Rule). The Company's requested increases in its annual revenues from its North Carolina customers, as requested initially in its Application on a consolidated basis for all five rate divisions, were \$18,064,678 (25.4%) for Rate Year 1, of which \$13,655,146 (19.2%) is the Base Year increase; \$4,303,037 (4.8%) for Rate Year 2; and \$4,579,353 (4.9%) for Rate Year 3. The Application indicated that the new rates would be effective on July 30, 2022, unless suspended by the Commission. Aqua also asked for other relief, including cost deferrals, changes to rate design, continuation of its conservation pilot program, a customer assistance pilot program, and a sewer use rule.² The Application was based upon a requested rate

² The Company's Application included a request for a rate increase under N.C.G.S. § 62-133, in the event the Commission denied the Company's request for a WSIP. The Company's Application also included a request to use a consumption adjustment mechanism (CAM) and continue using water and sewer system improvement charge rate adjustment mechanisms (WSIC

of return on common equity of 10.40%, an embedded long-term debt cost of 4.01%, and a capital structure of 50.00% common equity and 50.00% long-term debt.

The Stipulation

6. On March 31, 2023, Aqua and the Public Staff (collectively, the Parties) filed a Partial Settlement Agreement and Stipulation (Stipulation), resolving many of the issues contested between the Parties. The Parties agree that Aqua should be authorized to implement a multi-year rate plan or WSIP, according to certain parameters described in more detail *infra*.

7. The Stipulation includes adoption and implementation of the Performance-Based Metrics (PBMs) and, where applicable, corresponding incentives and penalties.

8. The Stipulation also provides for: (a) adoption of a new Sewer Use Rule; (b) performance of a third-party audit to review staffing needs; (c) addressing regulatory conditions in a different proceeding; (d) filing a 2018 affiliate interest agreement in Docket No. W-218, Sub 570; (e) the Company's commitment to report semi-annually, beginning with the quarterly report for Q2 of WSIP Rate Year 1 required by Rule R1-17A(j), on its efforts to pursue ways to reduce the high cost of purchased water from the Town of Pittsboro; (f) agreed upon O&M adjustments

and SSIC) if the Commission denied the requested WSIP. Both mechanisms are prohibited during the term of an approved WSIP pursuant to the WSIP Statute.

and inflationary indices; (g) agreed upon adjustments and accounting for rate base items; (h) use of a 50%/50% debt to equity structure and 3.97% cost of debt (i) date of the Company's first required quarterly WSIP reporting; (j) use of a zero basis point upper ROE band and 50 basis point lower ROE band; (k) post in-service charges associated with certain projects being subject to reasonableness and prudence review in the next general rate case; (l) Aqua's acceptance of accounting reporting requirements specific to manual accounting entries; (m) agreed upon rate design for water and sewer customers, including those in Huntley Glen, Park South, and Parkway Crossing subdivisions; (n) agreement on the adequacy of customer service, and (o) agreement that the Company's environmental compliance is reasonable.

9. The issues remaining in dispute between the Parties are: (a) the appropriate rate of return on equity; (b) recovery of costs incurred or planned to be incurred as part of Aqua's Capital Investment Plan for treatment of PFAS; (c) recovery of costs incurred or planned to be incurred for the Service Improvement Project (SIP), including SAP software, and related projects; (d) whether certain Performance-Based Metrics (PBMs) should have performance penalties (namely, timely completion of Capital Improvement Plan (CIP) projects, completion of CIP projects on budget, Safe Drinking Water Act compliance, and Clean Water Act compliance); (e) Conservation Pilot Program; (f) the Company's customer assistance pilot program (CAP) proposal; and (g) rate recovery of the full cost of the Wakefield treatment system.

10. The Stipulation is the product of give-and-take in negotiations between the Parties, is material evidence in this proceeding, and is entitled to be given appropriate weight in this case along with the other evidence of record, including that submitted by the Company, the Public Staff, and the public witnesses who testified at the public witness hearings.

11. The Stipulation is a partial settlement of the matters in controversy in this proceeding as between the Parties.

Acceptance of Stipulation

12. The WSIP, as agreed to in the Stipulation, along with other provisions of the Stipulation, will result in just and reasonable rates when combined with the rate effects of the Commission's decisions regarding the Disputed Issues.

13. The provisions of the WSIP as agreed to in the Stipulation, along with other provisions of the Stipulation, are just and reasonable to all parties to this proceeding, as well as the Company's ratepaying customers, will produce just and reasonable rates, and will serve the public interest when augmented by appropriate PBMs, penalties, and incentives.

14. It is appropriate to approve the Stipulation in its entirety.

WSIP

15. The appropriate term for the WSIP is a three year-period, as follows:

- a) WSIP Rate Year 1 will begin on January 1, 2023, and end on December 31, 2023;
- b) WSIP Rate Year 2 will begin on January 1, 2024, and end on December 31, 2024; and
- c) WSIP Rate Year 3 will begin on January 1, 2025, and end on December 31, 2025.

16. The WSIP may be modified or terminated prior to the end of WSIP Rate Year 3 as permitted by N.C.G.S. § 62-133.1B(f) and Commission Rule R1-17A(f). The WSIP Rate Year 3 rates approved herein should remain in place until the effective date of a new base rate case order unless otherwise ordered by the Commission.

17. The Base Case revenue requirements shown in the Stipulation and Public Staff Settlement Exhibit 1 are appropriate to be used as the starting point for the revenue requirements for WSIP Rate Years 1, 2, and 3, subject to modifications resulting from the decisions in this Order on disputed issues that affect Public Staff Settlement Exhibit 1.

18. It is appropriate to calculate WSIP Rate Year 1 revenue requirements (except for revenue requirements for the following expense items: salaries and wages, pension and other benefits, payroll taxes, purchased water and sewer, transportation-fuel services, and property tax) by escalating the corresponding Base Case revenue requirements by a general escalation factor of 3.04%. It is appropriate to calculate WSIP Rate Year 1 salaries and wages, pension and other benefits, and payroll taxes revenue requirements by escalating Base Case levels by 3.0%. It is appropriate to calculate WSIP Rate Year 1 purchased water service

revenue requirements by modifying Base Case levels to offset future wholesale expense changes using the pass-through mechanism. It is appropriate for WSIP Rate Year 1 transportation-fuel services revenue requirements to remain at Base Case levels. It is appropriate to calculate WSIP Rate Year 1 property tax service revenue requirements by escalating Base Case levels by 3.31%. It is appropriate for adjustments for plant, rate base, revenues, and costs to be reflected through the end of WSIP Rate Year 1.

19. It is appropriate to calculate WSIP Rate Year 2 revenue requirements (except for revenue requirements for the following expense items: salaries and wages, pension and other benefits, payroll taxes, purchased water and sewer, transportation-fuel services, and property tax) by escalating the corresponding WSIP Rate Year 1 revenue requirements by a general escalation factor of 3.04%. It is appropriate to calculate WSIP Rate Year 2 salaries and wages, pension and other benefits, and payroll taxes revenue requirements by escalating WSIP Rate Year 1 levels by 3.0%. It is appropriate to calculate WSIP Rate Year 2 purchased water service revenue requirements by modifying WSIP Rate Year 1 levels to offset future wholesale expense changes using the pass-through mechanism. It is appropriate for WSIP Rate Year 2 transportation-fuel services revenue requirements to remain at Base Case levels. It is appropriate to calculate WSIP Rate Year 2 property tax service revenue requirements by escalating WSIP Rate Year 1 levels by 3.31%.

20. It is appropriate to calculate WSIP Rate Year 3 revenue requirements

(except for revenue requirements for the following expense items: salaries and wages, pension and other benefits, payroll taxes, purchased water and sewer, transportation-fuel services, and property tax) by escalating the corresponding WSIP Rate Year 2 revenue requirements by a general escalation factor of 3.04%. It is appropriate to calculate WSIP Rate Year 3 salaries and wages, pension and other benefits, and payroll taxes revenue requirements by escalating WSIP Rate Year 2 levels by 3.0%. It is appropriate to calculate WSIP Rate Year 3 purchased water service revenue requirements by modifying WSIP Rate Year 2 levels to offset future wholesale expense changes using the pass-through mechanism. It is appropriate for WSIP Rate Year 3 transportation-fuel services revenue requirements to remain at Base Case levels. It is appropriate to calculate WSIP Rate Year 3 property tax service revenue requirements by escalating WSIP Rate Year 2 levels by 3.31%.

21. It is appropriate to use the capital improvement plan costs for WSIP Rate Years 1, 2, and 3 as such are projected by Aqua in its March 31, 2023, revised filing to Form W-1, Item 28, and summarized in Public Staff Settlement Exhibit 2. For purposes of this case, it is appropriate to calculate the plant in service and accumulated depreciation amounts for WSIP Rate Years 1, 2, and 3 under the Public Staff's methodology of assuming that in each WSIP Rate Year, both plant in service and accumulated depreciation for the WSIP Rate Year occurs on Day 1 of such WSIP Rate Year.

22. With respect to the banding of authorized returns on equity (ROEs)

required by N.C.G.S. § 62-133.1B(g), it is appropriate to utilize a band of 50 basis points (specifically, 0 basis points above the authorized ROE and 50 basis points below the authorized ROE) for WSIP Rate Years 1, 2, and 3.

23. The PBMs included in the Stipulation are appropriate metrics under N.C.G.S. § 62-133.1B(a) because they will benefit customers and ensure the provision of safe, reliable, and cost-effective water service. Aqua shall report its performance on these metrics annually in accordance with Rule R1-17A(g)(1)(b).

24. It is appropriate for Aqua to provide the quarterly and annual reports set forth in the WSIP Statute and WSIP Rule.

25. The timing of the first and second quarter reports in Rate Year 1, as set forth in the Stipulation, is appropriate given the timing of the start of Rate Year 1 and the anticipated timing of the Final Order.

Rate Design

26. It is reasonable and appropriate that Aqua's rate design for water utility service provided to its residential customers should be based on the following fixed/variable ratios which were agreed upon in the Stipulation: 35%:65% for the Aqua Uniform Water Rate Division; 35%:65% for the Brookwood Water Rate Division; and 35%:65% for the Fairways Water Rate Division; and based on 60%:40% for the Aqua Uniform Sewer Rate Division and 60%:40% for the Fairways Sewer Rate Division. It is reasonable and appropriate that unmetered

residential sewer rates remain flat.

27. It is reasonable and appropriate that Aqua's rate design for Huntley Glen, Park South, and Parkway Crossing should be based on the Company's Aqua Uniform Sewer Rate Division base charge for metered sewer service plus the Charlotte Water sewer usage rate.

28. These rate designs will produce rates that are just and reasonable and promote water efficiency and conservation while also providing Aqua a reasonable opportunity to recover the revenue requirements approved in this proceeding.

Continuation of Bulk Purchase Pass-Through Mechanisms and Update of Purchased Water and Sewer Rates

29. It is reasonable and appropriate for the Company to update its Base Year purchased water and sewer rates as proposed by the Public Staff and as described in the Stipulation. It is reasonable and appropriate for the Company to continue to utilize the bulk purchased water and sewer services pass-through mechanism.

Consumption Adjustment Mechanism

30. Consistent with N.C.G.S. § 62-133.1B(d), there should be no Consumption Adjustment Mechanism under N.C.G.S. § 62-133.12A during the term of Aqua's WSIP.

Suspension of WSIC and SSIC Mechanisms

31. Consistent with N.C.G.S. § 62-133.1B(d), it is reasonable and appropriate for Aqua, during the term of its WSIP, to suspend the use of the Water System Improvement Charge (WSIC), and the Sewer System Improvement Charge (SSIC). Consistent with Commission Rules R7-39(k) and R10-36(k), Aqua's WSIC and SSIC surcharges will reset to zero as of the effective date of the approved rates in this proceeding. Further, it is reasonable and appropriate for Aqua to begin using the WSIC and SSIC mechanisms immediately upon termination of the WSIP.

Sewer Use Rule

32. It is reasonable and appropriate to modify Aqua's Sewer Tariff to include a new Sewer Use Rule intended to protect its wastewater systems from damaging industrial and nondomestic contaminants.

Regulatory Conditions

33. It is reasonable and appropriate to address regulatory conditions in

Docket No. W-218, Sub 571, and not the present docket.

Pittsboro Purchased Water

34. It is appropriate for Aqua to pursue ways to reduce the high cost of purchased water from the Town of Pittsboro, including a request to the Town that it charge Aqua no more than the rate for customers inside city limits. If that is not successful, Aqua shall inquire about other options. Aqua shall report on its progress to the Commission and Public Staff on a semi-annual basis.

Reporting Requirements Specific to Manual Accounting Entries

35. It is reasonable and appropriate for the Company to file quarterly reports with the Commission that include: (1) the steps the Company has taken to modify its current system of verifying completion of plant to be used and useful; and (2) the following information about projects that the Company has manually entered into the plant accounting software beginning with Q4 2022: the total dollar amount of the plant, the original in-service date recorded by the system and the manually inserted in-service date entered by the Company, the calculation of AFUDC and corresponding entries to correct the overcollection of AFUDC by project, and the calculation of the depreciation expense differential caused by the override. The Company will file the first report on the same date as it files the report for Q2 of WSIP Rate Year 1 and will continue to file reports with each subsequent quarterly report through Q4 of Rate Year 3.

Environmental Compliance

36. Aqua's water and wastewater systems are generally in compliance with applicable federal and state regulations, testing requirements, and primary water quality standards.

Customer Concerns – Service and Water Quality-Related Issues, Quality, Remediation, and Communication

37. As of December 31, 2021, Aqua served approximately 84,000 water customers and 21,000 wastewater customers. Aqua owns and operates 738 water systems consisting of nearly 1,600 wells along with 59 wastewater systems and 201 collection systems across 51 counties in North Carolina.

38. Between October 26, 2020, and November 15, 2022, the Public Staff Consumer Services Division received 215 complaints. Fifty-five complaints (or approximately 25%) were related to water quality/low pressure; the other complaints were related to billing disputes, water system resiliency, water leaks, service disconnection due to non-payment, service requests and other general concerns (such as the Company's failure to provide a backup generator to operate a system should a power outage occur). There were also 25 complaints related to the Sub 526 Rate Case.

39. Between October 26, 2020, and July 31, 2022, the Company created 1,494 "LabD" work/service orders in response to discolored water complaint calls that require a work order. Once the Company investigated the root cause of the discolored water complaint and resolved it, the work orders were closed and

assigned a “root cause.” According to data provided by the Company, the “root cause” of approximately 22% (or 334) of the discolored water calls was a secondary water quality issue.

40. As of November 15, 2022, 41 written consumer statements of position were filed in Docket W-218, Sub 573CS. Consumer statements expressed: (1) opposition to the proposed rate increase, including the magnitude of the requested increase and timing of the increase given the inflationary climate; (2) the lack of improvements in service to justify the proposed increase; (3) poor water quality; (4) low water pressure; (5) foul odor in drinking water; (6) sediment in the water that led some customers to purchase costly home filtration systems; (7) poor customer service; (8) opposition to flat sewer rates; and (9) the Company’s failure to offer irrigation rate.

41. A total of 23 Aqua customers testified at the three in-person public witness hearings held in Raleigh, Wilmington, and Gastonia, and one virtual public witness hearing held via WebEx. The customers were from 15 subdivisions and eight different systems. The testimony received during those hearings covered secondary water quality concerns, customer service concerns, and opposition to rate increases. Nine customers from the Stoneridge Master, five customers from The Cape/Beau Rivage Master, four customers from the Park South, and one customer each from the Flowers Plantation, Chapel Ridge, Bayleaf/Stonebridge Master, River Oaks Master and Meadow Ridge Master testified.

42. Customer witnesses who testified regarding water quality complained specifically about: (1) discolored water; (2) water having a foul odor; (3) sediment buildup related to iron and manganese concentrations in the water; (4) damage to appliances and household fixtures; (5) discoloration of laundry caused by poor water quality; and (6) unsatisfactory customer service related to inaccurate and insufficient information on such matters as system advisories and service outages. Some customers who complained of water quality issues testified that they do not drink the water supplied by Aqua and, instead, have resorted to purchasing bottled water for drinking and cooking. Several customers testified that they have incurred expenses to have household filters installed to improve the quality of water supplied to their homes by Aqua. A few customers showed the Commission photographs of discolored water and photographs showing the effect sediment-laden water has had on their appliances and fixtures.

43. Other specific concerns about which customers testified, that were not necessarily water quality-related, include: (1) low water pressure; (2) the magnitude of the requested rate increase; (3) inadequate customer service; (4) system resiliency; (5) the lack of system-specific improvement plans to justify the proposed rate increase; (6) the customer notification process regarding potential leaks; (7) the plan and frequency of distribution system flushing; (8) fire hydrants being used for flushing purposes only and not for fire protection; (9) system specific rate design; (10) the frequency of rate cases without significant improvements; (11) the quality of services provided; (12) the excessive base facility charge; (13) a lack

of transparency regarding PFAS compounds; (14) inadequate customer complaint tracking; (15) failing to keeping customers informed of the water system operations; (16) testing requirements for backflow prevention devices; (17) negotiations of rates with a municipality for a purchased system; (18) reimbursement for water used for flushing; (19) a conservation incentive with water rates; (20) sewer charges; and (21) confusing public notifications.

44. The Company filed verified reports with the Commission addressing the concerns raised by the witnesses at the four public witness hearings. The reports described each witness's specific service-related and water quality-related comments and concerns as well as the Company's response to each comment and concern. With respect to secondary water quality concerns, the Company stated that it continues to address these issues by using the appropriate type of treatment/removal methods (e.g., flushing, sequestration, or oxidation and filtration) and installing new treatment equipment to meet the North Carolina Department of Environmental Quality (DEQ) requirements where necessary.

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

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

47. As shown by the customers’ comments and the actions taken by the Company to address the water quality complaints, specifically regarding secondary water quality complaints, Aqua continues to evaluate its systems for an appropriate type of treatment or removal method based on the water quality complaints received and up-to-date iron and manganese concentrations in the sources. For the systems that already have the filtration mechanisms or use sequestration for low levels of iron and manganese, the Company must properly operate and maintain the filtration mechanisms and flush the system regularly.

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

49. The overall quality of water service provided by Aqua is adequate on a company-wide and system-wide basis. The Company meets DEQ's and the USEPA's health-based primary quality standards.

50. Operational changes and capital improvements should continue as needed to support Aqua's efforts in improving the quality of water in systems affected by elevated levels of iron and manganese.

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

52. Aqua's level and quality of communication with its customers continues to increase and strengthen, as indicated by the testimony of its customers, the decrease in the number of customers testifying at public hearings and submitting written consumer statements, and the Company's evidence of its internal improvements.

53. To better track source water quality issues in its water systems and assess whether a system has elevated levels of iron and manganese in the source of supply, the Company must properly categorize discolored water calls as “LabD” calls and assign a proper root cause. Proper categorization and root cause assignment will improve the Company’s ability to assess the appropriate treatment method.

54. In order to accurately collect data, the Company must appropriately train relevant staff to categorize discolored water calls as “LabD” calls and assign a proper root cause.

55. Aqua must provide extra attention to operation and maintenance of older water systems and systems with iron and manganese to further improve its performance related to secondary water quality.

CONTESTED ISSUES

Capital Structure, Cost of Capital, Banding, and Overall Rate of Return

56. The cost of capital and revenue increase approved in this Order are intended to provide Aqua, through sound management, the opportunity to earn an overall rate of return. The overall rate of return is derived from applying an imputed cost of debt and an imputed rate of return on common equity proportionately to an imputed capital structure.

57. A capital structure consisting of 50% debt and 50% equity for Aqua is reasonable and appropriate for this case.

58. A 3.97% cost of debt for Aqua is reasonable and appropriate for this case.

59. A 9.30% rate of return on equity (ROE) for Aqua WSIP Rate Years 1, 2, and 3 is just, reasonable, and appropriate for this case. Banding of authorized returns of 0 basis points above that ROE and 50 basis points below that ROE for WSIP Rate Years 1, 2, and 3 – that is, an ROE range from 8.80% to 9.30%, is just, reasonable, and appropriate for this case.

60. Therefore, the overall rate of return would range from 6.385% (at the 8.80% ROE) to 6.635% (at the 9.30% ROE) for WSIP Rate Years 1, 2, and 3.

61. The provision of continuous, safe, adequate, reliable, and affordable water and wastewater utility service by Aqua is essential to Aqua's customers.

62. The rate increase approved in this case will be difficult for some of Aqua's customers to pay, especially its low-income customers.

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

64. The cost of debt, rate of return on common equity, banding, and equal debt and equity capital structure employed by the Commission as set forth above are supported by competent, material, and substantial evidence; are consistent with the statutory requirements; and are fair to Aqua's customers generally and in light of the impact of changing economic conditions. Further, the cost of debt, rate of return on common equity, banding, and capital structure employed by the Commission as set forth above balance fairness to the customers' need to pay the lowest possible rates with the need of Aqua to obtain equity and debt financing with the granting of the lowest investor required rate of return. The rates of return to Aqua's debt and the equity investors are fair both to the customer and to Aqua. This reasonably ensures the continuation of safe and reliable utility services. This is representative of the utility's cost of capital and also operations over the plan term. This will not result in sudden substantial rate increases to customers annually or over the term of the plan. This plan is in the public interest. It accounts for changing economic conditions. The authorized levels of overall rate of return and rate of return on common equity set forth above are supported by competent, material, and substantial evidence in the record; are consistent with the requirements of the applicable jurisprudence; and are fair to Aqua's customers generally and also in light of the impact of changing economic conditions.

Revenue Requirements

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

66. It is just and reasonable to adopt the increase in annual Base and WSIP Rate Years 1, 2, and 3 rate operating revenues listed in Public Staff Settlement Exhibit 1 for each rate division of Aqua. These increases will allow Aqua NC the opportunity to earn a 6.69% overall rate of return, which the Commission has found to be reasonable upon consideration of the findings in this Order.

67. The appropriate Base Year and WSIP Rate Years 1, 2, and 3 revenue requirements are reflected in Public Staff Settlement Exhibit 1.

68. The appropriate Base Year and WSIP Rate Years 1, 2, and 3 rate base and operating expenses are reflected in Public Staff Settlement Exhibit 1.

69. It is reasonable and appropriate to set the 5% revenue increase statutory cap as required by N.C.G.S. § 62-133.1B on the rate division level.

70. It is just and reasonable for Aqua to apply the 5% statutory cap on each rate division for its requests of revenue increases for WSIP Rate Years 2 and 3.

Service Improvement Project

71. The Service Improvement Project (SIP) and related projects, which include purchase and implementation of new SAP software and applications, are primarily an enterprise resource planning solution to replace the Lawson financial platform and the Banner customer service platform.

72. Based on the revised Form W-1, Item 28, filed on March 31, 2023, Aqua seeks rate recovery of SIP and related projects costs as follows: (1) \$7,095,415 since the last rate case through August 31, 2022; (2) \$2,708,584 for the period of September through December of 2022; (3) \$2,346,850 for 2023 in Rate Year 1; (4) \$766,250 for Rate Year 2; and (5) \$505,550 for Rate Year 3.

73. The SIP and related projects completed through August 31, 2022, are used but not useful for the purposes of ratemaking.

74. It is reasonable and appropriate to remove the costs for all SIP and related projects costs included in the test year and proposed in WISP Rate Years 1-3 and record these costs in a regulatory asset account, to be recovered in a future rate case. The costs should be amortized over a period of 15 years, with amortization beginning in the same month expenses for the project are incurred.

PFOS/PFOA Projects

75. Perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) are chemical compounds, which are part of the larger per- and polyfluoroalkyl substances (PFAS) family of compounds.

76. In 2020, Aqua's parent company, Essential, adopted a 13 parts per trillion (ppt) limit for PFOS and PFOA.

77. As part of its WSIP Application, W-1, Item 28, Aqua plans to complete approximately ten PFOS/PFOA filtration projects in North Carolina before the end of WSIP Rate Year 3 (December 31, 2025).

78. On March 13, 2023, USEPA Administrator, Michael S. Regan, signed a proposed rule, including preliminary regulatory determination, request for public comment, and notice of public hearing, for six PFAS known to occur in drinking water.

79. On March 29, 2023, the USEPA published the proposed rule in the Federal Register. The preliminary regulatory determination and proposed regulation are proposals and do not require any actions until after USEPA considers public input, including written comments and a virtual hearing held on May 4, 2023, and, if, USEPA finalizes the regulation. Written comments must be submitted to the public docket (EPA-HQ-OW-2022-0114) on or before May 30, 2023.

80. The PFOS/PFOA projects proposed by Aqua are not reasonably known and measurable capital investments pursuant to N.C.G.S. § 62-133.1B.

81. The PFOS/PFOA projects proposed by Aqua are not appropriate for approval as part of the WSIP as modified by the Commission.

Conservation Pilot Program

82. Aqua proposed the continuation of the Conservation Pilot Program (Pilot) that was authorized by the Commission in the Sub 526 Rate Case through the 2023 irrigation season. Aqua is seeking continuation because it contends that it does not have enough data to promote development of future rate structures. The Pilot includes the revenue reconciliation methodology approved by the Commission in Docket No. W-218, Sub 526A.

83. The Public Staff opposes the continuation of the Pilot because Aqua has had adequate time to collect the data the Commission required in the Sub 526 Rate Case and continuation of the Pilot while implementing the WSIP will unnecessarily complicate application of statutory requirements of the WSIP Statute.

84. It is reasonable and appropriate for Aqua to discontinue the Pilot and apply the applicable Aqua uniform water rates to the customers in the Arbor Bay, Bayleaf Master, Merion, and Pebble Bay water systems.

Customer Assistance Program (CAP)

85. Aqua proposed a customer assistance program (CAP) to assist low-income customers with arrears who are at risk of disconnection or without service due to disconnection. Customers with household income below 150% of the federal poverty guidelines could be eligible. Aqua plans to work with Dollar Energy Fund to manage and administer the program.

86. Aqua's proposed CAP would reallocate \$45,000 of the Company's antenna revenues for the CAP annually. Dollar Energy Fund charges an operating fee of 8.75% of the grant amount and a fee in the range of \$5 to \$10 per application. Aqua stated that the CAP would be available on an annual basis until the funds for the year are exhausted. If the \$45,000 allocation is not exhausted at the end of the calendar year, the unused funds will carry over to the following year. Aqua stated that customers are eligible to receive one grant of no more than \$500 per year.

87. The Public Staff opposes Aqua's proposed CAP contending that the Company has not demonstrated that the program, including the parameters and amounts, is reasonable or justified for the purposes of this case.

88. It is reasonable and appropriate for Aqua to continue to develop the proposed CAP and present the Commission and Public Staff with additional information and analysis to support the program, including a cost-benefit analysis to customers.

Wakefield Filter Project

89. Aqua spent \$857,797 on a project to install a treatment system to remove iron and manganese from well water in its Wakefield service area (Funding Project 35800060544). Aqua's original estimate to complete the project was \$370,000 to \$395,000.

90. Aqua informed the Commission in Docket No. W-218, Sub 363A, that the project would take six months to complete. The project took five years and six months to complete, resulting in an excessive allowance for funds used during construction (AFUDC).

91. For cost efficiency, Aqua planned to connect Well #6 and Well #8 in its Wakefield service area and build one treatment system instead of two. This connection required Aqua to obtain an easement.

92. Aqua imprudently incurred costs for engineering and equipment before it had the easement necessary to complete the project as planned.

93. Aqua imprudently paid its first consulting engineer for work that it believed was late and not adequate.

94. Aqua's internal staffing problems delayed the project.

95. The amount of utility plant-in-service for this project should be decreased by 25% of \$857,797 resulting in a \$214,449 disallowance.

Performance Based Metrics

96. To comply with N.C.G.S. § 62-133.1B.(a) and Commission Rule R1-17A(b)(1) and (c)(10), it is appropriate to establish the Performance Based Metrics (PBMs) and incentives and penalties set out in Appendix X to this Order, in addition to the PBMs, incentives, and penalties agreed upon by the Stipulating Parties.

97. Aqua shall report on its performance on the PBMs set out in Appendix X on an annual basis in accordance with Commission Rule R1-17A(g)(1)(b).

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 1-25

The Stipulation, Acceptance of Stipulation, and WSIP

The evidence supporting these findings of fact is found in the Stipulation, the testimony of both Aqua's and the Public Staff's witnesses, Public Staff Settlement Exhibit 1, and the entire record in this proceeding.

On March 31, 2023, Aqua and the Public Staff entered into and filed a Stipulation of Partial Settlement that (a) memorializes their agreements on specified issues in this proceeding, and (b) lists the remaining disputed issues.

Accompanying the Stipulation is Public Staff Settlement Exhibit 1, which demonstrates the impact of the Parties' agreements on the calculation of Aqua's gross revenue for the test year updated through August 31, 2022, the "bridge"

period of September 1, 2022, to December 31, 2022, and the WSIP Rate Years 1, 2, and 3. The Stipulation is also based upon the same WSIP Rate Years as included in the Company's Application, including the use of certain projections and escalation factors. In addition to the Parties' agreements on most of the issues in this proceeding (except the Disputed Issues), the Stipulation provides that Aqua and the Public Staff agree that the Stipulation reflects a negotiation of contested issues, and that the provisions of the Stipulation do not reflect any position asserted by either Aqua or the Public Staff, but instead reflect compromise and settlement between them. The Stipulation provides that it is binding as between Aqua and the Public Staff, and that it is conditioned upon the Commission's acceptance of the Stipulation in its entirety. There are no other parties to this proceeding.

North Carolina Gen. Stat. § 62-133.1B(a) defines a WSIP as a plan under which the Commission sets water or sewer base rates, sets revenue requirements through banding of authorized returns, and authorizes annual rate changes for a three-year period based on reasonably known and measurable capital investments and anticipated reasonable and prudent expenses approved under the plan without the need for a base rate proceeding during the plan period. The Stipulation and the other evidence demonstrate that the WSIP agreed to in this proceeding meets this statutory definition. The Commission approves the WSIP consistent with the Stipulation terms, and is setting base rates for Aqua, authorizing the banding of authorized returns, and authorizing rate changes for a three-year period

based on reasonably known and measurable capital investments and anticipated reasonable and prudent expenses approved under the plan, without the need for a base rate proceeding during the plan period.

The key aspects of the Stipulation and the WSIP are as follows:

- WSIP – The Parties agree that:

- o the term for the WSIP should be a three year-period, as follows: (a) WSIP Rate Year 1 will begin on January 1, 2023, and end on December 31, 2023; (b) WSIP Rate Year 2 will begin on January 1, 2024, and end on December 31, 2024; and (c) WSIP Rate Year 3 will begin on January 1, 2025, and end on December 31, 2025.

- o The Base period in this case represents the 12 months ending December 31, 2021, updated through the Commission recommended post- test-year date, August 31, 2022.

- o A bridge period spanning from September 1, 2022 through December 31, 2022, whereafter Rate Year 1 begins, includes activity that must be considered in the establishment of WSIP rates. Agreed upon activity for this bridge period has been included in the Rate Year 1 revenue requirement.

- o the WSIP may be modified or terminated prior to the end of WSIP Rate Year 3 as permitted by N.C. Gen. Stat. § 62-133.1B(f) and Rule R1-17A(f).

- o WSIP Rate Year 3 rates approved herein should remain in place until the effective date of a new base rate case order unless otherwise ordered by the Commission.

- o the Base Year revenue requirements shown in Public Staff Settlement Exhibit 1 should be used as the starting point for the revenue requirements for WSIP Rate Years 1, 2, and 3.

- o WSIP Rate Years 1, 2, and 3 revenue requirements should be calculated starting with the Base Case revenue requirements escalated by a general escalation factor of 3.04% each year, except for the following:
 - o salaries and wages, pension and other benefits, and payroll taxes should be escalated at a rate of 3.0% each year.

 - o purchased water service revenue requirements should remain at Base Case levels, with future wholesale expense changes to be offset through the pass-through mechanism.

 - o purchased sewer treatment service revenue requirements should remain at Base Case levels, with future wholesale expense changes to be offset through the pass-through mechanism for the Park South, Parkway Crossing, Huntley Glen, and The Enclave systems that have City of Charlotte treatment, and for the Bradfield Farm/Carolina Water systems of Hawthorne at the Greene,

Woodland Farms, Beaver Farms. Other purchased sewer treatment costs, not subject to pass-through, will be escalated by the 3.04% annual rate.

- o transportation-fuel services revenue requirements should remain at Base Case levels.

- o Property taxes should be escalated at 3.31% each year.

- o Adjustments for WSIP Rate Year 1, Rate Year 2, and Rate Year 3 plant, rate base, revenues, and costs are as shown on Public Staff Settlement Exhibit 1 and should be reflected through the end of each WSIP Rate Year.

- o Capital improvement plan costs for WSIP Rate Years 1, 2, and 3 should be as shown in Public Staff Settlement Exhibit 2.

- o Plant in service and accumulated depreciation amounts for WSIP Rate Years 1, 2, and 3 should be calculated using the Public Staff's methodology of assuming that in each WSIP Rate Year, both plant in service and accumulated depreciation for the WSIP Rate Year occurs on Day 1 of such WSIP Rate Year.

- o With respect to the banding of authorized ROEs required by N.C.G.S. § 62-133.1B(g), a band of zero basis points above the authorized ROE and 50 basis points below the authorized ROE – should be used for all three Rate Years.

- o With respect to performance metrics required by N.C.G.S. § 62-133.1B(a), the following metrics should be adopted for Aqua in this case.

Description

Measure

Penalty

Incentive

Expense Efficiency Operation & Maintenance expense, per Equivalent Residential Connection (ERC) on a rate division and Company basis, excluding Purchased Water / Sewer Treatment and Purchased Power

None If, on a Company basis, the actual O&M expense level is reduced by at least \$100K in comparison to the authorized level, then a two and one-half Basis Points (BP) increase to the high-end of the band is awarded. For each additional \$20K in savings, an additional one-half BP increase is awarded, up to a cumulative maximum of 10 BPs.

Utilization of the SRF Program Whether the Company applied for SRF funds for four eligible projects estimated at a total of \$2 million or more during each Rate Year of the WSIP 10 BP ROE reduction to high-end of the Commission-approved band for failure to submit the applications required by the measure.

One-quarter BP increase to the high-end of the Commission-approved band for every \$500K in funding the Company is awarded.

Water Service Disruptions Unplanned water service disruptions – recorded water main breaks / 1,000 accounts Tracking metric Tracking metric

Sewer Overflows Number of sanitary sewer overflows (SSOs)

Wastewater SSOs / (100 miles of gravity line) Tracking metric Tracking metric

Water Loss (Water purchased – water sold) / water purchased

Tracking metric Tracking metric

Routine Flushing

Percent of systems flushed within the WSIP Rate Year

Percent of systems means number of systems flushed / total number of systems during the WSIP rate year. Tracking metric Tracking metric

Water Service Quality

Customer Complaints Technical service complaints (Lab D) / (active accounts / 1,000)

Underlying data should incorporate subdivision and system name

Tracking metric Tracking metric

Timely Answering of Customer Calls Telephone service factor – calls answered within 30 seconds / total calls answered (tracked by quarter; based on calls received during business hours) Tracking metric

Tracking metric

Customer Call Abandonment Rate

Percentage of calls abandoned by customers during the WSIP rate year

Tracking metric Tracking metric

Employee Safety OSHA incident rate – (number of injuries and illnesses*200,000) / employee hours worked

Tracking metric Tracking metric

Field Employee Safety Training Field Employee safety training – hours of employee safety training /employee

Field Employee means staff member who works outside the office at least one-half of the year

Safety training means structured and organized training (not peer to peer training)

Tracking metric Tracking metric

Employee Turnover Number of employees that leave / total number of employees for same time period

Tracking metric Tracking metric

- o Aqua will report on its performance on such metrics on an annual basis in accordance with Rule R1-17A(g)(1)(b).

- o Aqua will provide the annual reports set forth in the WSIP Statute and WSIP Rules.

- o Aqua will provide the quarterly reports set forth in the WSIP Statute and WSIP Rules according to the Stipulation, which allows the first and second quarter reports in Rate Year 1 to be filed 45 days after the second quarter end of WSIP Rate Year 1.

- Capital Structure -- the capital structure appropriate for use in this proceeding is a capital structure consisting of 50.00% common equity and 50.00% long-term debt.

- Cost of Debt – a cost of long-term debt of 3.97% is appropriate for use in this proceeding.

- Regulatory Commission Expense – Aqua’s regulatory commission expense, also known as rate case expense, will be updated by Aqua in a filing within ten business days after the settlement proceeding. The Public Staff has the right to investigate the expenses filed by Aqua and to file a response with the Commission within five business days. The current rate case expense for this proceeding will be amortized over a four-year period without a return or carrying costs. Aqua agrees to establish a regulatory liability with no carrying costs to record recovery associated with the rate case expense over amortization after year four. The rate case expense from Docket No. W-218 Sub 526, and the unamortized rate case expense from Docket No. W-218 Sub 497, will continue to be amortized over three years per the final order from the Docket No. W-218, Sub 526, rate case. The unamortized depreciation study expense from Docket No. W-218, Sub 497, will continue to be amortized over five years per the final order from the Docket No. W-218, Sub 497, rate case.

- Tariff Rate Design and Other Programs

- o Rate Design -- rate design in this case should be based on a 35/65 ratio of fixed/volumetric (or base/usage) revenues for water service rates, a 60/40 ratio of fixed/volumetric (or base/usage) revenues for metered sewer service rates, and a flat rate continuing for unmetered sewer customers.

- o Purchased Water and Sewer Services -- Aqua will continue to utilize the bulk purchased water and sewer services pass-through mechanism.

- o Modification of Sewer Tariff for a Sewer Use Rule – Aqua should be authorized to modify its tariff as proposed by the Company, with the one modification proposed by the Public Staff in its testimony.

- Other Provisions

- o State Revolving Fund – Aqua should apply for state revolving funds as specified in the Stipulation section on PBMs.

- o 2018 Affiliate Interest Agreement -- Aqua agrees to file in Docket No. W-218, Sub 570, its 2018 Affiliate Interest Agreement as an information item, in satisfaction of Public Staff concern that this agreement was not previously filed for approval with the Commission.

- o Management Audit -- Aqua will perform a Management Audit limited to review of staffing needs to include compliance with the WSIP requirements.

- o Pittsboro Purchased Water -- Aqua shall pursue ways to reduce the high cost of purchased water from the Town of Pittsboro, including a request to the Town that it charge Aqua no more than the rate for customers inside city limits rate. Aqua shall report on its progress to the Commission and Public Staff on a semi-annual basis.

- o Future Cases -- Aqua will use its best efforts to communicate with the Public Staff, Commission and other Class A water and sewer utilities regarding scheduling of future rate case filings in an effort to avoid pancaked filings going forward.

- o Accounting reporting requirements – Aqua will file quarterly reports with the Commission that include (1) the steps the Company has taken to modify its current system of verifying completion of plant to be used and useful and (2) the following information about projects that the Company has manually entered into the plant accounting software beginning with Q4 2022: the total dollar amount of the plant, the original in-service date recorded by the system and the manually inserted in-service date entered by the Company, the calculation of AFUDC and corresponding entries to correct the overcollection of AFUDC by project, and the

calculation of the depreciation expense differential caused by the override. The Company will file the first report on the same date as it files the report for Q2 of WSIP Rate Year 1 and will continue to file reports with each subsequent quarterly report through Q4 of Rate Year 3.

Based upon the foregoing and the entire record herein, the Commission finds that the Stipulation was entered into by the Parties after full discovery and extensive negotiations, that the Stipulation is the product of give-and-take in settlement negotiations between Aqua and the Public Staff, and that the Stipulation represents a reasonable and appropriate resolution of certain specific matters in dispute in this proceeding. In making this finding the Commission notes that no party expressed opposition to the provisions of the Stipulation. In addition, when the provisions of the Stipulation are compared to Aqua's Application and the recommendations included in the testimony of the Public Staff's witnesses, the Stipulation results in a number of downward adjustments to the expenses sought to be recovered by Aqua, and resolves issues, some of which were more important to Aqua, and others of which were more important to the Public Staff. Therefore, the Commission further finds that the Stipulation is material evidence to be given appropriate weight in this proceeding, along with all other evidence of record, including that submitted by Aqua, the Public Staff, and the public witnesses who testified at the hearings.

In addition, the Commission finds that the Stipulation resolves only some of the disputed issues between Aqua and the Public Staff. The Stipulation leaves the following Disputed Issues to be resolved by the Commission:

1. The appropriate rate of return on equity
2. Recovery of costs for capital projects related to treatment of PFOS/PFOA contaminants
3. Recovery of costs for Capital Investment Plan (CIP) projects incurred for the Service Improvement Plan (SIP), including SAP software
4. Inclusion of penalties and incentives for the following Performance-Based Metrics (PBMs) (i) timely completion of CIP projects, (ii) completion of CIP projects on budget, (iii) Safe Drinking Water Act compliance, and (iv) Clean Water Act compliance
5. Conservation Pilot Program

6. Customer Assistance Program

7. Rate base treatment for the Wakefield treatment system

North Carolina Gen. Stat. § 62-133.1B(b) provides that the Commission may approve a WSIP upon a finding by the Commission that the plan results in rates that are just and reasonable and are in the public interest. Further, that statute states that in reviewing any application for a WSIP, the Commission must consider whether the application, as proposed: (1) establishes rates that are fair both to the customer and to the water or sewer utility; (2) reasonably ensures the continuation of safe and reliable utility services; (3) will not result in sudden substantial rate increases to customers annually or over the term of the plan; (4) is representative of the utility's operations over the plan term; and (5) is otherwise in the public interest.

In this case, the evidence shows that approval of the Stipulation and the WSIP, along with the Commission's determination of the contested issues, will result in just and reasonable rates and will be in the public interest. The rates are representative of the Company's expected operations over the term of the plan. The rates are supported by a historical utility plant in service combined with a reasonable capital plan for the three-year plan period. The rates are also supported by historical revenue and expense data combined with reasonable plan period revenue and expense projections using escalation factors based on reasonable

inflation projections, customer growth projections, and certain specific expense forecasts (such as salaries and wages). The revenue requirements should be sufficient to allow the Company to make needed capital improvements while also covering expected operation and maintenance expenses, thus supporting the continuation of safe and reliable service to customers. The revenue requirements approved upfront in the WSIP, in conjunction with the protection of the WSIP statute's 5% cap for Rate Years 2 and 3, will limit annual rate increases, avoiding the sudden substantial rate increases a series of traditional base rate cases sometimes produces.

The public interest will be served by approval of the Stipulation and the WSIP. On the one hand, the WSIP will provide the Company with flexibility to make planned and needed infrastructure investments, along with some protection against inflation and regulatory lag during the term of the plan, without the need for (and cost of) full-blown rate cases every year. On the other hand, the Commission, the Public Staff, and customers are being provided with more information about the Company's plans; the WSIP limits the annual revenue requirements thus imposing risk of cost increases and cost control upon the Company; any earnings above the authorized ROE band will be returned to customers; and Commission oversight is enhanced. This enhancement is attained as the approved performance metrics will increase Company transparency and accountability, and we expect that as certain incentives and penalties are added to the metrics, accountability will be further strengthened.

After careful consideration the Commission finds that the Stipulation and the WSIP are consistent with N.C.G.S. § 62-133.1B and strike a fair balance between the interests of Aqua to maintain its financial strength at a level that enables it to attract sufficient capital on reasonable terms, on the one hand, and its customers to receive safe, adequate, reliable, and affordable water and sewer service at reasonable rates, on the other. The Commission finds that the rates that will result from the Stipulation are just and reasonable to both Aqua and its customers. In addition, the Commission finds that the provisions of the Stipulation are just and reasonable to all parties to this proceeding and serve the public interest, and that it is appropriate to approve the Stipulation in its entirety (as updated herein with respect to the due date for provisions regarding penalties and incentives).

Filing of 2018 Affiliate Interest Agreement

The Commission finds and concludes that it is appropriate and reasonable for Aqua to file the 2018 Affiliate Interest Agreement that amended the Service Agreement between Aqua Services, Inc., and Aqua, Mountain Point Utilities, Inc., Heater Utilities, Inc., Fairway Utilities, Inc., Rayco Utilities, Inc., Brookwood Water Corporation, Glynnwood Water Systems, Inc., Willowbrook Utility Company, Inc., and LaGrange Waterworks (2006 Service Company Agreement) filed and approved in Docket No. W-218, Sub 220. The 2018 Affiliate Interest Agreement is superseded by the Affiliate Interest Agreement between Aqua Services, Inc. and Aqua North Carolina, Inc. that is filed in Docket No. W-218, Sub 570 (Sub 570

Affiliate Interest Agreement) and currently before the Commission for consideration and approval. The 2018 Affiliate Interest Agreement must, for informational purposes, be filed in Docket No. W-218, Sub 570 consistent with the Stipulation.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 26-28

Rate Design

The evidence supporting these findings of fact is contained in the verified Application, the direct pre-filed testimony of Aqua witness Haddad, the direct pre-filed testimony of Public Staff witness Darden, the pre-filed rebuttal testimony of Aqua witness Franceski, the witnesses' evidentiary hearing testimony, and the Stipulation.

Regarding water rate design, Aqua witness Haddad proposed that there be no modifications to the fixed/variable ratio approved by the Commission in the Company's most recent prior rate case (Docket No. W-218, Sub 526), including allocations of base facility charges (BFCs) and volumetric charges for the average water customers as follows: 41%/59% for the ANC Water Rate Division; 41%/59% for the Brookwood Water Rate Division; and 44%/56% for the Fairways Water Rate Division. Tr. vol. 5, 125. He also proposed that there be no modification to the previously approved fixed/variable structure or its metered wastewater customers as follows: 80%/20% for the ANC Sewer Rate Division and the Fairways Sewer Rate Division. Id. at 125-126.

As part of its Application and as discussed in witness Haddad's direct pre-filed testimony, Aqua proposed to consolidate customers in Huntley Glen, Park South, and Parkway Crossing and their related purchased sewer costs into the ANC sewer utility service tariff for "Monthly Metered Service (residential and commercial customers)." Id. at 130. These customers are metered sewer customers who to whom Aqua passes through the usage rate charged by Charlotte Water for providing sewer treatment service to Aqua. Under the Company's proposal, the customers' pass-through billing would be eliminated and their purchased sewer costs would be included in ANC Sewer Rate Division O&M expenses. Id.

The Public Staff, through the testimony of witness Darden, recommended a service revenue ratio with a fixed/variable structure as follows: 30%/70% for ANC Water, Brookwood Water, and Fairways Water customers and 60%/40% for ANC Sewer and Fairways Sewer customers. Tr. vol. 7, 26. She testified that a lower base facility charge reduces the cost burden on customers for access to utility service before the use of any service and gives customers greater control over their total bill by adjusting their usage through conservation and improved efficiency. Id. Witness Darden noted that Aqua customers' average usage has remained stable despite past incremental shifts in rate design. She further noted that, if overall usage were to decline, short-term variable expenses would decrease, which would benefit the Company and provide revenue stability.

Id. at 27-28. Witness Darden recommended that the same rate design and rate structure be used for the base year and WSIP Years 1, 2, and 3. Id. at 33.

The Stipulating Parties agree that rate design in this case should be based on a 35/65 ratio of fixed/volumetric (or base/usage) revenues for water service rates. The Stipulating Parties further agree that rate design in this case should be based on a 60/40 ratio of fixed/volumetric (or base/usage) revenues for metered sewer service rates. Unmetered residential sewer rates should remain flat.

The Commission finds good cause to approve the rate design proposals recommended by the Public Staff as set forth above given the negotiated support for such proposals as evidenced by the Stipulation. The Commission finds and concludes that the rate design proposals as set forth above are just and reasonable and should be approved.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NO. 29

Continuation of Bulk Purchase Pass-Through Mechanisms and Update of Purchased Water and Sewer Rates

Based on the evidence presented in this proceeding, in particular the verified Application and accompanying NCUC Form W-1, the Stipulation, and the testimony and exhibits of Public Staff witnesses Darden and Franklin and Aqua witness Gearhart and Haddad, the Commission finds and concludes that,

consistent with the Stipulation, and as allowed by N.C.G.S. § 62-133.11, Aqua should continue to utilize the bulk purchased water and sewer pass-through mechanisms and Aqua's purchased water and sewer rates should be updated as proposed by the Public Staff.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NO. 30

Consumption Adjustment Mechanism

The evidence supporting these findings of fact is contained in the Stipulation, the WSIP Statute, and the direct pre-filed testimony of Public Staff witness Darden and Aqua witness Haddad.

Pursuant to N.C.G.S. § 62-133.1B(d), "Any rate adjustment mechanism authorized pursuant to G.S. 62-133.12 or G.S. 133.12A shall be discontinued during the term of any Water and Sewer Investment Plan." A CAM can only be authorized under N.C.G.S. § 62-133.12A. Therefore, a CAM cannot be utilized if the Commission has approved a WSIP.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NO. 31

Suspension of WSIC and SSIC Mechanisms

The evidence supporting these findings of fact is found in the Stipulation, the WSIP Statute, and the WSIP Rule.

Consistent with Rules R7-39(k) and R10-26(k) and the Stipulation, the Commission's previously approved WSIC and SSIC rate adjustment mechanisms have been reset to zero in this case. Consistent with N.C.G.S. § 62-133.1B(d), during the term of a WSIP, the WSIC and SSIC mechanisms shall be suspended; however, immediately upon the termination of the WSIP, the Company shall be authorized to begin implementation of the WSIC and SSIC mechanisms again.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NO. 32

New Sewer Use Rule and Modification of Existing Sewer Tariff

The evidence supporting this finding of fact is found in the verified Application, the direct pre-filed testimony of Company witness Becker, the direct pre-filed testimony of Public Staff witness Darden, the pre-filed rebuttal testimony of the Aqua PBM Panel, and the Stipulation.

In this case, Aqua proposed to modify its Sewer Tariff to include a new Sewer Use Rule, intended to protect its wastewater systems from damaging industrial and nondomestic contaminants. In the Stipulation, the Parties agreed that Aqua's Sewer Tariff should be modified by removing Chromium (VI) from the list of General Effluent Limitations appearing in Item 4 on page six of the Company's proposed Sewer Use Rule.

As part of the Sewer Use Rule, Aqua may require installation and/or proper operation of grease traps or other pre-treatment devices on grease producing commercial facilities. Failure to properly operate grease traps will result in disconnection of service pursuant to Commission Rule R10-16.

The Sewer Use Rule will be posted by Aqua at https://www.aquawater.com/_assets/sewer-use-rule.pdf and will also be made available upon request.

Therefore, in light of the foregoing, the Commission concludes that it is appropriate and reasonable for Aqua to modify its Sewer Tariff.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NO. 33

Regulatory Conditions

The evidence supporting these findings of fact is found in the Joint Rebuttal Testimony of the Aqua WSIP Panel, the Joint Testimony of the Public Staff WSIP Panel, both panels' evidentiary hearing testimony, the Stipulation, and the entire record in this proceeding.

The Public Staff WSIP Panel recommended that certain regulatory conditions, attached as Public Staff WSIP Exhibit 5, be imposed as a part of the rate case. The Aqua rebuttal WSIP Panel testified that the regulatory conditions for its reorganization of Essential Utilities into a holding company, for which regulatory approval is sought in Docket No. W-218, Sub 571, should be kept

separate from the rate case proceeding. The Aqua rebuttal WSIP Panel also submitted its own recommendation for regulatory conditions in the event the Commission did rule on that issue in the present case.

In the Stipulation, the parties agreed that they would work together in an attempt to finalize regulatory conditions in Docket No. W-218, Subs 570 and 571. The Commission finds and concludes that this negotiated resolution is appropriate and reasonable, and therefore the issue of regulatory conditions does not need to be addressed in the present rate case docket.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NO. 34

Pittsboro Purchased Water

The evidence for this finding of fact is contained in the prefiled direct testimony of Public Staff witness Darden, the prefiled Joint Rebuttal Testimony of the Aqua WSIP Panel, the evidentiary hearing testimony of those witnesses for both parties, the Stipulation, and the entire record in this proceeding.

Witness Darden testified about the high cost of water that Aqua purchases in bulk from the Town of Pittsboro. Pittsboro charges its outside-of-town limits rate to Aqua for service to the Aqua customers in the subdivisions of Chapel Ridge, Laurel Ridge and The Parks of Meadowview. Witness Darden recommended that Aqua pursue ways to reduce the cost from Pittsboro, including but not limited to, pursuing an inside-town-limits rate, and that Aqua look into

options that may encourage the Town of Pittsboro to discount the rate if the in-town city limits rate is not an option, such as prepayment of bills. The Public Staff recommended that Aqua report to the Commission and the Public Staff on the Company's progress on a semi-annual basis and include in its reporting more details on the alternative water supply options, including cost analysis and feasibility.

The Aqua WSIP panel described various efforts the Company had already made to obtain a lower rate from Pittsboro or an alternative supply source. They noted that the original developer contract with Pittsboro for purchased water is binding on Aqua, and that it requires Aqua to purchase 100% of its water from Pittsboro at the outside-town-limits rate. The Company asked if that could be lowered, and a Town official responded that a reduction would be unlikely as the rates are per the contract and a rate reduction would result in increased rates for others. The Company asked if Pittsboro would annex the Aqua service areas so those residents could have lower rates, and the Town official responded that annexation was unlikely because of the added infrastructure costs necessary to serve these communities and it would not likely be advantageous to the Town. The Company has also explored the idea of alternative water supply, notwithstanding the contract prohibition on that option, and determined that further action on that option would Aqua would "incur potentially significant time and cost related to the pursuit of a new source that may not result in enough water to serve or supplement the supply to these communities" and that there would be challenges in mixing

Town water with Aqua well water because the two providers use incompatible treatment chemicals. Aqua did offer to request permission from Pittsboro to potentially use alternative water supplies, or to include the affected Aqua customers in uniform rates.

In the Stipulation, the parties agreed that Aqua will pursue ways to reduce the high cost of purchased water from the Town of Pittsboro, including a request to the Town that it charge Aqua no more than the rate for customers inside city limits. If that is not successful, Aqua shall inquire about other options, such as prepayment of bills or a minimum bill amount. Aqua shall report on its progress to the Commission and Public Staff on a semi-annual basis. The Commission concludes that continued efforts to solve the problem of the high cost of purchased water from Pittsboro are appropriate, and that the Stipulation is a reasonable approach to this problem.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 35

Reporting Requirements Specific to Manual Accounting Entries and Secondary Water Quality

The evidence supporting this finding of fact is found in the prefiled testimony of the Public Staff accounting panel, the Joint Testimony of the Public Staff WSIP Panel, the prefiled rebuttal testimony of Aqua joint witnesses Gearhart and Haddad, the Stipulation, and the entire record in this proceeding.

The Public Staff accounting panel noted that Aqua personnel had to manually override automated systems during its transition to SAP. They recommended that Aqua file quarterly reports on the projects that the Company has manually entered into the plant accounting software, including total dollar amount of the plant, the original in service date recorded by the system and the manually inserted in-service date entered by the Company, the calculation of AFUDC and corresponding entries to correct the overcollection of AFUDC by project, and the calculation of the depreciation expense differential caused by the override.

The Aqua rebuttal panel of witnesses Gearhart and Haddad opposed the Public Staff recommendation as burdensome and unnecessary. However, in the Stipulation, the Company agreed to file quarterly reports with the Commission that include (1) the steps the Company has taken to modify its current system of verifying completion of plant to be used and useful, and (2) the following information about projects that the Company has manually entered into the plant accounting software beginning with Q4 2022: the total dollar amount of the plant; the original in-service date recorded by the system and the manually inserted in-service date entered by the Company; the calculation of AFUDC and corresponding entries to correct the overcollection of AFUDC by project; and the calculation of the depreciation expense differential caused by the override. The Company will file the first report on the same date as it files the report for Q2 of

WSIP Rate Year 1, and will continue to file reports with each subsequent quarterly report through Q4 of Rate Year 3.

Aqua also agreed in the Stipulation to continue the same secondary water quality reporting requirements ordered in Docket No. W-218, Subs 363, 497, and 526, with the additional modification that the Company be required to file a report regardless of whether the Water and Sewer Investment Charges (WSIC) are in effect and Aqua has an expectation of WSIC funding.

The Commission concludes that the reporting requirements provided in the Stipulation are appropriate to approve in this proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NO. 36

Environmental Compliance

The evidence for this finding of fact is contained in the prefiled direct testimony of Public Staff witness Evan M. Houser, the prefiled rebuttal testimony of Aqua witness Amanda A. Berger, both witnesses' evidentiary hearing testimony, and the entire record in this proceeding.

Summary of the Testimony of Public Staff Witness Evan M. Houser

Public Staff witness Houser reviewed the environmental compliance records for the Company's water and wastewater systems from August 2019

through July 2022. Witness Houser discussed the environmental noncompliance that occurred during that time-period, noting that a total of 85 wastewater and 19 water violations were issued by North Carolina Department of Environmental Quality (DEQ). Witness Houser stated that Aqua had paid \$13,088 and \$1,100 in civil penalties related to its wastewater and water systems, respectively. Witness Houser additionally stated that Aqua had received 23 Notices of Deficiency from DEQ related to its wastewater systems. Witness Houser concluded that Aqua's water systems are generally in compliance with federal and state regulations, testing requirements, and primary water quality standards. Tr. vol. 6, 347-352.

Summary of the Rebuttal Testimony Aqua witness Amanda A. Berger

While witness Berger did not dispute the testimony of Public Staff witness Houser regarding the Company's environmental compliance record, she provided additional context regarding the statistics witness Houser presented. Witness Berger noted that witness Houser acknowledged the Company is generally in compliance. Tr. vol. 10, 39.

Witness Berger stated that, while witness Houser's summary of wastewater violations was factual, it did not recognize that Aqua's wastewater facilities are small and are not designed or constructed to achieve 100% compliance. Witness Berger noted that, while treatment redundancy and excessive capacity have been identified as imprudent in previous rate cases, both redundancy and additional capacity are, to some extent, critical to compliance. Id. at 39-40.

Witness Berger stated that the Company operates 58 nonmajor wastewater treatment facilities and 26 permitted water treatment plant discharges. Witness Berger noted that 55% to 63% of similar facilities in North Carolina had noncompliance between 2020 and the third quarter of 2022 and that 9.23% to 12.9% of those facilities were in significant noncompliance. Aqua's facilities ranged from 22% to 39% non-compliant, with 0% - 3.44% being in significant noncompliance during the specified period. Id. at 40. Aqua had a 98.7% wastewater compliance rate during the period of January 2022 – October 2022 Id. at 41.

Witness Berger explained the circumstances surrounding the water violations witness Houser testified to and stated that his characterization of Aqua's compliance record was "not representative of actuality, and is a bit misleading" without mention of the Company's "significant success of maintaining compliance for more than 700 water systems and 58 wastewater plants, along with widespread distribution, collection, and spray systems" Id. at 44. Witness Berger testified that Aqua historically has received very favorable comments from its environmental regulators regarding its ability to sample and report for over 700 public water systems. The Company's monitoring and reporting compliance record is calculated to be 99.99% for the period of 2020 through the third quarter of 2022. Id.

Summary of witness Berger's Testimony in Response to Questions from the Commission

In response to a question from Commissioner Brown-Bland about whether it was possible to specify which of the NOV's issued to the Company would trigger a determination of significant noncompliance for a facility, witness Berger explained that two of Aqua's systems witness Houser identified as having been issued an NOV were determined to be in significant noncompliance "due to treatment challenges." Id. at 108. Witness Berger continued, "So the trigger point would be if I have a BOD [biological oxygen demand] limit that's greater than 60 percent 60 percent greater and I consistently do that, that would lead to significant noncompliance is how that's determined." Id. at 108-109.

When asked by Commissioner Brown-Bland to distinguish nonmajor wastewater treatment plants from major plants, witness Berger stated that nonmajor plants are those with flows of less than one million gallons per day. She did not believe any of Aqua's plants were discharging one million gallons per day. Id. at 109. Commissioner Brown-Bland asked clarifying questions on grade 1 – grade 3 wastewater facilities design limitation, and witness Berger explained that the facilities the Company operates lack the increased technology, redundancy, efficiency that makes achieving 100 percent compliance feasible. She further clarified that these facilities can be impacted by operational or catastrophic issues such as a maintenance on a treatment chain or catastrophic flood, and identified that these types of issues can be contributing factors to the Company's wastewater non-compliance rate. Id. at 120-121.

Conclusions

The evidence of record demonstrates that Aqua's water and wastewater systems are generally in compliance with federal and state regulations, testing requirements, and primary water quality standards, and they appear to be providing adequate quality service based upon the information included in the time-period reviewed in this proceeding. Based upon the clarifying information presented by Witness Berger, the Commission finds that, where primary water quality concerns have arisen associated with the environmental compliance of Aqua's water systems, Aqua has worked to correct the issues in a timely manner, and continues to provide adequate water quality and service to its customers.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 37-55

Customer Concerns - Service and Water Quality Related Issues, Quality, Remediation, and Communications

The evidence supporting these findings of fact is contained in the pre-filed testimony of Public Staff witness Shashi M. Bhatta, the pre-filed and evidentiary hearing rebuttal testimony of Company witness Amanda A. Berger, the testimony and exhibits of the public witnesses, the verified reports filed by the Company, and the entire record in this proceeding.

Public Witness Hearings and the Company's Responses

Four public witness hearings were held for the purpose of receiving the testimony of Aqua's customers and other non-expert, public witnesses. A total of

23 customers testified during the hearings. Several witnesses testified that they opposed the Company's requested rate increase. Most witnesses testified that the water Aqua supplies has caused serious problems, including discoloring fixtures and damaging appliances and installed in-home water filtration systems. The customers testified that the secondary water quality issues they experience have resulted in significant expense to (1) repair and replace damaged appliances and plumbing fixtures and (2) purchase bottled water for drinking and cooking. The secondary water quality concerns of the customer witnesses appearing before the Commission in this docket are consistent with the customer concerns expressed by witnesses who testified at the public witness hearings held in connection with Aqua's last four general rate cases filed in Docket No. W-218, Subs 319, 363, 497, and 526 in 2011, 2013, 2018, and 2020, respectively.

Some witnesses, who testified about issues related to poor water quality, also testified about issues with Aqua's customer service and the inability to communicate with the Company on water quality concerns. They testified about the improper timing of boil water notices and termination of water service without prior notification. Witnesses also testified about a lack of planning to replace aging infrastructure, a lack of routine maintenance, high water bills, low water pressure, and concerns over water system resiliency. Some witnesses also testified regarding the magnitude of rate increase, unique and system-specific rate design concerns, and the requested base facility charge increase despite the significant rate increase granted in the Sub 526 Rate Case. Most wastewater customers

expressed frustration with flat rate sewer service. Other witnesses testified about inadequate customer complaint logging, the frequency of the backflow prevention device testing, the possibility of a municipality (the Cape Fear Public Utilities Association) taking over the Village at Mott's Landing section of the Cape Fear Master system, Aqua's perceived failure to encourage water conservation due to high base charges, how Aqua's rates compare with municipal rates, and Aqua's transparency on PFAS detected in Aqua wells.

Aqua's verified reports on customer comments addressed the concerns raised by the witnesses at the public witness hearings. In its Report on Customer Comments from Public Hearing held In Raleigh, North Carolina on October 4, 2022 (Raleigh Public Hearing Report), filed on October 24, 2022, Aqua reported that it spoke to, met with, or otherwise attempted to contact the witnesses who testified at the hearing. Regarding water quality issues stemming from the presence of iron and manganese in the well water, Aqua stated that iron and manganese are some of the most abundant naturally occurring elements of the soil and rock formations from which groundwater is extracted in North Carolina. The Company stated approximately 20% of its approximately 1,600 wells are challenged with elevated levels of iron and manganese and it has tried to reduce those levels by implementing different treatment and removal methods (e.g., flushing, sequestration, and oxidation and filtration). From 2015 to 2021, Aqua stated that it has installed 62 filters at a cost of approximately \$22 million and it anticipates installing 14 additional filters to remove iron and manganese by the end of 2022 at

an estimated cost of \$5.4 million. Aqua also stated that its 2018 Water Quality Plan, that categorizes the water systems' iron and manganese remediation priority need based on the concentrations, is continually updated to include recently detected concentrations and DEQ's feedback on the same.

Aqua acknowledged that the presence of iron and manganese in the water can cause water discoloration, problems with household appliances, and staining of fixtures and laundry and also noted that the levels of iron and manganese in its systems meet applicable DEQ regulatory standards and pose no health risk to users. The Company also stated that it is cost prohibitive to install a filter to treat 100% of the source water for iron and manganese and hardness. The Company explained that some water quality issues result from unexpected events like water main breaks, equipment failures, power outages, and construction activities. The Company stated that it provides advance customer notification of the potential of water quality impact when scheduled maintenance activities may impact water quality.

The Company's Raleigh Public Hearing Report also addressed customer concerns related to low water pressure. The Company stated that it operates all of its water systems to maintain a minimum pressure of 45 pounds per square inch (PSI), but pressure losses at homes may still occur. Possible causes for low water pressure include problems with home plumbing fixtures, such as carbonate build up in shower heads and faucet aerators, as well as mechanical failure of system equipment such as a well pump, pressure tank, or booster pump. For the customer

that specifically complained about water pressure, the Company installed pressure sensors to record pressure throughout the system following the public witness hearing. The Company submitted the results documenting that the minimum pressure required was met throughout the system with the Raleigh Public Hearing Report.

The Company's Raleigh Public Hearing Report also addressed customer complaints about the proposed rates. The Company stated that the proposed rates are not subjectively developed and are based on the actual, or expected, capital costs and actual, or projected, operating costs. The Company stated that comparing the Company's rate to municipal rates is not a fair comparison.

The Company's Raleigh Public Hearing Report also addressed customer complaints about inadequate notice regarding upcoming system maintenance events. The Company stated that it attempts to provide advance notice regarding upcoming system maintenance events affecting the water quality, but some situations are unplanned and require immediate actions.

The Raleigh Public Hearing Report discussed the ways in which the Company communicates with customers. The Company stated that it "has made several improvements to its local communication efforts over the past several years." Raleigh Public Hearing Report, 13. The Company identified the following improvements: (1) improved messaging of flushing campaigns using WaterSmart Alert; (2) increased use of local signage at community entrances and exits for

awareness of flushing activities while a campaign is in progress; (3) addition of a bit.ly link on WaterSmart text messages that allow customers to be taken to a site with a comprehensive message; and (4) implementation of a Service Disruption Map on Aqua America's home page that is used to track potential outages and flushing activities by system. *Id.* at 13-14. The Company also discussed the Company's website (www.NCWaterQuality.com) dedicated to secondary water quality issues that is routinely updated to provide the latest information on the Company's systems. *Id.* at 14-15. The Company also described customer service staff training designed to improve interactions with customers. Lastly, the Raleigh Public Hearing Report stated that the Company's management team tries to maintain regular communications with homeowners' associations and the Company is working towards making the leak notification process more efficient.

In its Report on Customer Comments from Virtual Hearing held on October 20, 2022, filed on November 9, 2022, Aqua reported that the Company has the capability to bring in on-site portable generators when there is an electrical outage, adding that if customers register on the Company's WaterSmart Alert program, they can receive an instant alert issued for the Company's systems via email, text, or phone. The Company also stated it has a plan to treat the PFAS compounds detected in its wells even though the USEPA has not issued a final rule on PFAS limits in water.

In its Report on Customer Comments from Public Hearings in Wilmington on October 26, 2022 and Gastonia on October 27, 2022 (Wilmington-Gastonia

Public Hearing Report), filed on November 15, 2022, Aqua outlined the measures the Company has taken regarding PFAS levels. The Company stated that it has (1) updated its water quality website to include PFAS concentrations at The Cape/Beau Rivage wells in October 2022 and (2) it has provided the PFAS levels detected in the wells at The Cape/Beau Rivage system to the customers who have requested the information. The Company also stated that it has plans to install treatment systems for wells that have PFAS levels above 13 ppt. Aqua further stated that customers in The Cape/Beau Rivage system interested in paying a separate rate for water used for irrigation can request and obtain, at their own cost, a separate irrigation service line with a separate meter. For the Park South customers who are interested in pass-through rate design, the Company stated that it supports a range of rate design approaches and is open to all conversations on optimal design, provided the recovery of the revenue requirement is reasonably supported.

Pre-filed Testimony of Public Staff witness Bhatta

In the prefiled direct testimony of Public Staff witness Bhatta, witness Bhatta outlined the Public Staff's review of the Company's handling of phone complaints about secondary water quality issues. Witness Bhatta testified that Aqua issues a LabD, a category of work/service order, in response to discolored water complaints that require a work order. Witness Bhatta stated that the LabD service order information contains, among other information, the date of each complaint and a description of the field service representative's reported root cause. Tr. vol. 6, 318.

Witness Bhatta testified that she reviewed the discolored water complaints data (LabD data) from October 26, 2020 to July 31, 2022 provided by Aqua. Based on her review, the field service representative (FSR) reported a root cause of “source water quality” for approximately 22.4 % (334 calls) of the LabD calls received during that period. *Id.* at 320. Witness Bhatta then testified that the percentage increases to 33.9% when the “No Problem/Clear on Arrival” option was removed from the analysis. *Id.* at 320-321.

Witness Bhatta testified that it appears Aqua has generally addressed customers’ complaints appropriately and is working to address issues in a timely manner. Tr. vol. 6, 333. Witness Bhatta further testified that older systems and systems with high levels of iron and manganese may need additional attention in terms of operation and maintenance, such as more frequent distribution system flushing than annually and more frequent backwashing of iron and manganese filters. *Id.*

Pre-filed Testimony of Aqua witness Berger

Company witness Berger testified on rebuttal that she reviewed the complaints the Public Staff Consumer Services Division received from customers for the period between October 1, 2020, and December 5, 2022. Witness Berger stated that Aqua recorded 165 informal complaints and 37 complaints (approximately 20.2%) were assigned a root cause of water quality and/or low pressure. Tr. vol. 10, 47.

Witness Berger also provided additional context regarding the LabD calls Public Staff witness Bhatta discussed. Witness Berger testified that FSRs identify a root cause from a list of programmed root causes when they close a work order. Witness Berger testified that the list was updated in January 2022 to include a new category: Clear on Arrival. *Id.* at 48. According to witness Berger, the new category was added because a review of pre-2022 data showed that many FSRs were selecting “Source Water Quality Issue” in response to calls that were clear on arrival. *Id.* at 49. Witness Berger noted that data collected before January 1, 2022, will not reflect the newly added category.

Witness Berger stated that she completed a “more thorough review” of the data Aqua gave the Public Staff that entailed reviewing FSR notes, Secondary Water Quality Group identification, and conversations with staff. Witness Berger determined that Aqua reported 2,840 LabD calls between January 1, 2020 and July 31, 2022, and 4.6% of those calls were directly related to naturally occurring iron and manganese. *Id.* at 50.

Evidentiary Hearing Rebuttal Testimony of Aqua witness Berger

During cross-examination, witness Berger described the Company’s internal process for handling customer complaints that gives rise to a LabD work order. Witness Berger testified that the Company has been working on continuously improving its process since 2018. Witness Berger testified that the

Company provides employee training on handling LabD calls, but mistakes can happen.

Discussions and Conclusions

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

The Commission further finds and concludes that (1) the overall quality of water service provided by Aqua is adequate on a companywide and systemwide basis for purposes of human consumption and ingestion and (2) the overall companywide and systemwide quality of wastewater service provided by Aqua is adequate and the Company generally has operated its wastewater plants in a prudent manner.

DISPUTED ISSUES

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 56-64

Capital Structure, Long-term Debt Cost, Return on Equity Banding, Return on Equity, and Overall Rate of Return

Testimony of Aqua Witness Dylan W. D'Ascendis

The evidence supporting these findings of fact and conclusions are contained in the documents, testimony, and exhibits taken in this matter, including without limitation the Company's verified Application and accompanying 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 testimony and exhibits of Public Staff witness Hinton, the joint testimony and exhibits of Public Staff witnesses Boswell, Hinton, Junis, Sun, and Zhang, the partial settlement agreement and stipulation, and the entire record of this proceeding.

Aqua witness Dylan W. D'Ascendis testified regarding the weighted average cost of capital, the appropriate capital structure, the appropriate cost of long-term debt, the appropriate return on common equity, banding of authorized returns, and other matters. In his testimony, witness D'Ascendis provided two summaries of his recommendations as shown below. The first is as follows:

TABLE 1A: SUMMARY OF OVERALL RATE OF RETURN – BASE YEAR

<u>Type of Capital</u>	<u>Ratios</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	50.00%	4.01%	2.01%
Common Equity	<u>50.00%</u>	9.90% - 10.90%	<u>4.95% - 5.45%</u>
Total	<u>100.00%</u>		<u>6.96% - 7.46%</u>

TABLE 1B: SUMMARY OF OVERALL RATE OF RETURN – PROJECTED YEAR 1

<u>Type of Capital</u>	<u>Ratios</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	50.00%	4.01%	2.01%
Common Equity	<u>50.00%</u>	10.12% - 11.12%	<u>5.06% - 5.56%</u>
Total	<u>100.00%</u>		<u>7.07% - 7.57%</u>

TABLE 1C: SUMMARY OF OVERALL RATE OF RETURN – PROJECTED YEAR 2

<u>Type of Capital</u>	<u>Ratios</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	50.00%	4.01%	2.01%
Common Equity	<u>50.00%</u>	10.08% - 11.08%	<u>5.04% - 5.54%</u>
Total	<u>100.00%</u>		<u>7.05% - 7.55%</u>

TABLE 1D: SUMMARY OF OVERALL RATE OF RETURN – PROJECTED YEAR 3

<u>Type of Capital</u>	<u>Ratios</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	50.00%	4.01%	2.01%
Common Equity	<u>50.00%</u>	10.19% - 11.19%	<u>5.09% - 5.59%</u>
Total	<u>100.00%</u>		<u>7.10% - 7.60%</u>

Tr. vol. 6, 14.

The second is as follows:

TABLE 2: SUMMARY OF COMMON EQUITY COST RATES

	Using Current Interest Rates	Using Projected 2023 Interest Rates	Using Projected 2024 Interest Rates	Using Projected 2025 Interest Rates
Discounted Cash Flow Model	9.37%	9.37%	9.37%	9.37%
Risk Premium Model	11.12%	11.76%	11.69%	11.90%
Capital Asset Pricing Model	11.32%	11.68%	11.66%	11.79%
Market Models Applied to Comparable Risk, Non-Price Regulated Companies	<u>11.20%</u>	<u>11.54%</u>	<u>11.49%</u>	<u>11.49%</u>
Indicated Range of Common Equity Cost Rates Before Adjustments for Company-Specific Risk	9.85% - 10.85%	10.07% - 11.07%	10.03% - 11.03%	10.14% - 11.14%
Size Adjustment	0.00%	0.00%	0.00%	0.00%
Flotation Cost Adjustment	0.05%	0.05%	0.05%	0.05%
Indicated Range of Common Equity Cost Rates after Adjustment	<u>9.90%</u> - <u>10.90%</u>	<u>10.12%</u> - <u>11.12%</u>	<u>10.08%</u> - <u>11.08%</u>	<u>10.19%</u> - <u>11.19%</u>

Tr. vol. 6, 16.

Aqua witness D'Ascendis testified regarding general principles he considered (including the cases *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*)) in arriving at his recommended return on equity; business risk and why it is important to the determination of a fair rate of return; the risks water and wastewater industries face in general; financial risk and why it is important to the determination of a fair rate of return; and whether bond and credit ratings can be a proxy for a firm's combined

business and financial risk to equity owners (that is, investment risk). Tr. vol. 6, 18-29.

Mr. D'Ascendis testified Aqua is a subsidiary of Essential Utilities, Inc. (Essential). Essential is publicly traded while Aqua is not. In order to estimate an appropriate return on equity for Aqua, he looked to two groups of comparable proxy companies: (1) a group comprised of utilities (the Utility Proxy Group); and (2) a group comprised of non-price regulated companies (the Non-Price Regulated Proxy Group). Witness D'Ascendis provided testimony regarding Aqua's North Carolina operations; how he chose the comparable companies in the Utility Proxy Group; and provided a summary of the Utility Proxy Group's historical capitalization and financial statistics. Tr. vol. 6, 29-32.

In regard to the proposed capital structure for Aqua, Witness D'Ascendis recommended utilizing a capital structure for Aqua consisting of 50% long-term debt and 50% common equity. This ratio, he testified, is reasonable and, further, it is consistent with the range of common equity ratios maintained, on average, by companies in the Utility Proxy Group. Mr. D'Ascendis testified that Aqua's long-term debt cost rate should be 4.01%, which is derived from the long-term borrowings of Aqua as of May 2022. He further testified that 4.01% is a reasonable and appropriate long-term debt cost rate. Tr. vol. 6, 33-35.

Aqua witness D'Ascendis used three broad categories of common equity cost determination models: (1) the discounted cash flow model; (2) the risk

premium model; and (3) the capital asset pricing model. He discussed why it was important that common equity cost determination models are market based, noting that the models he used were market based, and the analytical approaches he used to determine Aqua's return on equity. Tr. vol. 6, 36-37.

Aqua witness D'Ascendis explained that the discounted cash flow model is based on the theory that the present value of an expected future stream of net cash flows during the investment holding period can be determined by discounting those cash flows at the cost of capital. He testified regarding the theory underlying the model; the version of the model he used; the dividend yield he employed; adjustments he made to the dividend yield; the basis of the growth rates he applied to the Utility Proxy Group; and the results of his application of the constant growth discounted cash flow model. Tr. vol. 6, 38-41. Those results indicate a common equity cost as follows:

9.37%	Base Year (using current interest rates)
9.37%	Projected Rate Year 1 (using 2023 projected interest rates)
9.37%	Projected Rate Year 2 (using 2024 projected interest rates)
9.37%	Projected Rate Year 3 (using 2025 projected interest rates)

Tr. vol. 6, 40-41; Ex. vol. 6, Aqua D'Ascendis Direct Exhibit DWD-1, page 2.

Mr. D'Ascendis testified that the theoretical basis behind the risk premium model is that common equity capital has greater investment risk than debt capital and, as a result, investors require higher returns from common stocks than investment bonds and that this difference can be derived. Within the risk premium model, Aqua witness D'Ascendis used two methods to derive his indicated cost of

common equity: (1) the predictive risk premium model; and (2) the total market approach risk premium model. Tr. vol. 6, 41-46. He explained the predictive risk premium model and its components; how he selected the risk-free rates of return; and why he used a 30-year treasury bond yield as his risk-free rate. *Id.*

Aqua witness D'Ascendis explained the total market approach risk premium model; how he determined the representative bond yields used in his analysis; and the total market approach risk premium model's use of two equity risk premiums – the beta-derived equity risk premium and an equity risk premium based on the S&P Utilities Index. *Id.*

Regarding the beta-derived equity risk premium portion of total market approach risk premium model, Aqua witness D'Ascendis indicated that he used the following six measures to calculate it: (1) Ibbotson equity risk premium; (2) regression on Ibbotson risk premium data; (3) Ibbotson equity risk premium based on the predictive risk premium model; (4) equity risk premium based on the Value Line Investment Survey (Value Line) summary and index; (5) equity risk premium based on Value Line S&P 500 companies; and (6) equity risk premium based on Bloomberg Professional Services' (Bloomberg) S&P 500 companies. Mr. D'Ascendis explained how he had derived a market equity risk premium based on long-term historical data and the derivation of the regression-based market equity risk premium. He also described how he had calculated the representative Aaa/Aa-rated corporate bond yields for his analyses and how he derived another equity risk premium based on large company common stocks minus the monthly yields

on Aaa/Aa-rated corporate bonds. Witness D'Ascendis further explained the derivation of projected equity risk premiums based on the Value Line summary and index, Value Line data for S&P 500 companies, and Bloomberg data, as well as his conclusions for the beta-derived equity risk premium component for use in his risk premium model, including the equal weight assigned each measure, adjustments to account for risk, and results of his calculations. Tr. vol. 6, 41-55; Ex. vol. 6, Aqua D'Ascendis Direct Exhibit DWD-4, page 11.

Regarding the equity risk premium based on the S&P Utilities Index portion of total market approach risk premium model, Mr. D'Ascendis indicated that it is derived from five variants: three equity risk premiums based on S&P Utility Index holding returns and two equity risk premiums based on the expected returns of the S&P Utilities Index, one using Value Line data and the other relying on Bloomberg data. He discussed the results of the computation of these five variants; his conclusion about the equity risk premium to be used in the total market approach risk premium model; and the indicated common equity cost rates. Tr. vol. 6, 55-57.

Aqua witness D'Ascendis stated that he had given equal weight to the results of his two methods, the predictive risk premium model and the total market approach risk premium model, by averaging them, resulting in a common equity cost rate as follows:

11.12%	Base Year (using current interest rates)
11.76%	Projected Rate Year 1 (using 2023 projected interest rates)
11.69%	Projected Rate Year 2 (using 2024 projected interest rates)
11.90%	Projected Rate Year 3 (using 2025 projected interest rates)

Tr. vol. 6, 57; Ex. vol. 6, Aqua D'Ascendis Direct Exhibit DWD-4, page 1.

Aqua witness D'Ascendis testified that the theory behind the capital asset pricing model is that investors require compensation only for systematic risk (also called market risk) which is the result of macroeconomic and other events that affect the returns on all assets. He explained that the appropriate returns on equity are determined by adding a risk-free rate of return to a market risk premium and then adjusting proportionally individual securities based on their deviation from the total market (such deviation being measured by beta). He also discussed the empirical capital asset pricing model, which takes into account the fact that while such deviations are related to security returns, that relationship is not as linear as predicted. Witness D'Ascendis utilized both the capital asset pricing model and the empirical capital asset pricing model. Tr. vol. 6, 57-61. He gave equal weight to the two variants by averaging the results of the capital asset pricing model and empirical capital asset pricing model. Ex. vol. 6, Aqua D'Ascendis Direct Exhibit DWD-1, pages 1, 5 n.6

Aqua witness D'Ascendis testified regarding the betas he used in his analysis, his selection of a risk-free rate of return, the estimation of the expected risk premium for the market, and the results of his application to the Utility Proxy Group. Tr. vol. 6, 61-63.

The results indicated a common equity cost rate as follows:

11.32%	Base Year (using current interest rates)
11.68%	Projected Rate Year 1 (using 2023 projected interest rates)

11.66% Projected Rate Year 2 (using 2024 projected interest rates)
 11.79% Projected Rate Year 3 (using 2025 projected interest rates)

Tr. vol. 6, 63; Ex. vol. 6, Aqua D'Ascendis Direct Exhibit DWD-1, page 2.

Witness D'Ascendis described why he considered a proxy group of domestic, non-price regulated companies and how he selected non-price regulated companies that are comparable in total risk to the Utility Proxy Group. He also discussed his schedule, which shows the data from which he selected the 24 domestic non-price regulated companies that are comparable in total risk to the Utility Proxy Group, his calculation of the common equity cost rate indicated by application of his three models, and his results. Tr. vol. 6, 64-67.

The results of Aqua witness D'Ascendis' common equity cost determination models as applied to the Non-Price Regulated Proxy Group are as follows:

	Discounted Cash Flow Model	Risk Premium Model	Capital Asset Pricing Model
Results using current interest rates	10.68%	11.79%	11.18%
Results using projected 2023 interest rates	10.68%	12.33%	11.55%
Results using projected 2024 interest rates	10.68%	12.13%	11.53%
Results using projected 2025 interest rates	10.68%	12.25%	11.66%

Tr. vol. 6, 66-67; Ex. vol. 6, Aqua D'Ascendis Direct Exhibit DWD-7, pages 1-9.

Mr. D'Ascendis testified to the conclusions of his common equity cost rate determinations prior to adjustment by setting forth a range of indicated common equity cost rates as follows:

Test Year	Value
Base Year	9.85% - 10.85%
Forecasted Year 1	10.07% - 11.07%
Forecasted Year 2	10.03% - 11.03%
Forecasted Year 3	10.14% - 11.14%

Tr. vol. 6, 68-69.

Witness D'Ascendis testified about whether a company's size compared with the utility proxy group could impact its business risk, whether rating agencies accounted for company sizes in their bond ratings, and the reasons he did not apply a relative risk adjustment in this case. Tr. vol. 6, 69-72.

Mr. D'Ascendis discussed flotation costs, why they should be recognized in the allowed common equity cost rate; whether they should be recognized only when there was an issuance in the test year or there is an imminent post-test year issuance of additional common stock; whether the common equity cost determination models he used already reflect investors' anticipation of flotation costs; and how he calculated the flotation cost allowance. He testified a flotation cost adjustment of a 0.05% increase to the Company's return on equity was warranted to reflect the flotation costs applicable to the Company. Tr. vol. 6, 72-77.

Mr. D'Ascendis testified he considered the impact of the WSIP and determined it did not lower Aqua's risk. He explained that the WSIP better matches future revenues to future expenses but does not affect volatility; that the WSIP

protected customer interests over Aqua's interests; and made no adjustment to his return on equity determinations as a result of the WSIP. Tr. vol. 6, 76-77.

Aqua witness D'Ascendis testified he considered economic conditions in North Carolina in arriving at his return on equity recommendation. He testified that although economic conditions in North Carolina declined significantly in the second quarter of 2020 as a result of COVID-19, they have improved considerably since; economic conditions in North Carolina remain strongly correlated to the U.S. economy; that unemployment at both the state and county level remains highly correlated with national rates of unemployment; that the real gross domestic product in North Carolina remains highly correlated with that of the United States; and that median household income in North Carolina has grown at a rate consistent with the rest of the United States and remains strongly correlated with national levels. Tr. vol. 6, 77-79.

Mr. D'Ascendis testified the specific measures of economic conditions that he reviewed; provided a summary of economic indicators and what they showed; and testified that his recommended ranges of the return on equity are fair and reasonable to Aqua, its shareholders, and its customers and are not unduly burdensome to Aqua's customers in light of the changing economic conditions in North Carolina. Tr. vol. 6, 80-86.

Aqua witness D'Ascendis concluded his direct testimony with the following summary chart:

SUMMARY OF OVERALL RATE OF RETURN YEAR

<u>Type of Capital</u>	<u>Ratios</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	50.00%	4.01%	2.01%
Common Equity	<u>50.00%</u>	10.40%	<u>5.20%</u>
Total	<u>100.00%</u>		<u>7.21%</u>

He testified the returns he recommended were just and reasonable; would ensure the integrity of presently invested capital; would enable the attraction of new capital on reasonable terms; would permit Aqua to provide safe, adequate, and reliable service; and balances the interests of both customers and Aqua. Tr. vol. 6, 87.

Under cross examination, Mr. D'Ascendis stated he testified often on behalf of regulated utilities and had not testified on behalf of the Public Staff or its equivalent in other states. Tr. vol. 6, 99. In regard to impact on the revenue requirement of the Company's requested ROE of 10.4% and the Public Staff's recommended ROE of 9.3%, witness D'Ascendis testified that the difference between the two ROEs would be \$7,620,250 over the three years of the WSIP. Tr. vol. 6, 102-106, Ex. vol. 6, D'Ascendis Direct Cross Exhibit No. 1.

Aqua witness D'Ascendis testified regarding returns authorized in other proceedings and did not disagree with D'Ascendis Direct Cross Exhibit 4 that demonstrated that for the past 37 cases, his recommended return on equity was, on average, between 1.18% and 1.38% higher than the return on equity ultimately awarded in those other proceedings. Ex. vol. 6, D'Ascendis Direct Cross Exhibit Nos. 2-4. Mr. D'Ascendis conceded that while the math may be correct, he

believed less weight should be given to cases where the parties reached a settlement regarding the appropriate return on equity. Tr. vol. 6, 107-115.

Aqua witness D'Ascendis testified that Aqua itself issues no common stock but its ultimate parent company, Essential, is publicly traded on the New York Stock Exchange; and that Essential has a market cap of approximately \$12.5 billion. Tr. vol. 6, 100-102.

Aqua witness D'Ascendis testified that his calculations showed that a five-basis point increase to the return on equity was warranted to compensate Aqua for flotation costs. He agreed that over the course of a three-year WSIP, five basis points would result in Aqua receiving an additional \$346,000. Mr. D'Ascendis explained the manner in which he computed flotation costs and why it differed from the discounted cash flow model mechanics. Tr. vol. 6, 118-124. He also discussed the difference in the flotation costs he used in his testimony versus those provided in response to discovery. Tr. vol. 6, 124-126, 130-131; Ex. vol. 6, D'Ascendis Direct Cross Exhibit No. 8.

Aqua witness D'Ascendis was questioned regarding the proportionate share of customers served in North Carolina versus those served by all of Essential and he agreed that North Carolina customers should not bear all the flotation costs incurred. Witness D'Ascendis testified he believed flotation costs should not be treated as expenses but rather rolled into the allowed return on equity. He also discussed whether allowing flotation costs in equity could cause a company to earn

more than the flotation expenses themselves; and how flotation costs should be viewed and treated. Tr. vol. 6, 126-138; Ex. vol. 6, D'Ascendis Direct Cross Exhibit No. 10.

Aqua witness D'Ascendis was questioned regarding the North Carolina Supreme Court's opinion in *Utilities Com. v. Public Staff*, 331 N.C. 215; 415 S.E.2d 354 (1992) (*Public Staff*), discussing flotation costs, including a comparison of the potential earnings versus the potential costs of a utility. He also discussed the Supreme Court's finding that flotation costs were unsupported where there was no evidence of near-term plans to issue common equity. Tr. vol. 6, 138-142; Ex. vol. 6, D'Ascendis Direct Cross Exhibit No. 9, 7. Mr. D'Ascendis conceded that there was no evidence showing a plan to issue new common stock in the near-term, as follows:

Q. [by the Public Staff] ... Can we agree that nowhere in the record -- and I've read your testimony carefully, but nowhere in the record is there a dollar figure for -- that shows a plan to issue new common stock in the near-term?

A. [by Aqua witness D'Ascendis] I agree with you.

Tr. vol. 6, 142. Finally, he discussed how in *Public Staff* the Court had called into question whether flotation expenses should be allowed a return on equity or whether they should always be treated as costs instead of increases to an allowed return on equity. Tr. vol. 6, 142-143.

Aqua witness D'Ascendis testified that flotation costs were appropriate for recovery through an adjustment to the common equity cost rate. Although Aqua

itself had no flotation costs, its ultimate parent, Essential, is publicly traded on the New York Stock Exchange and from time to time incurs flotation costs. Mr. D'Ascendis' prefiled testimony relied on certain issuance costs (shown on page 1 of his Schedule DWD-9) to contend an increase of 0.05% to the Company's ROE is required to reflect and recover the flotation costs applicable to Aqua.

Aqua witness D'Ascendis testified that as stated on Aqua's own responses to discovery that the issuance expense incurred by Essential associated with an issuance of common equity for an employee plan during the test year and up through August 1, 2022, totaled \$221,816. Ex. vol. 6, D'Ascendis Direct Cross Exhibit No. 8. Aqua witness D'Ascendis further testified that there was no plan in the record for Essential to issue new common stock in the near term. Tr. vol. 6, 142.

Aqua witness D'Ascendis did not employ the \$221,816 figure in his calculations. Instead, his Schedule DWD-9 lists Essential's equity offerings in April 2019, March 2020, and August 2021, which Mr. D'Ascendis used as a basis to adjust his recommended initial utility proxy group DCF ROE analysis by five basis points (from 9.03% to 9.08%). However, Aqua witness D'Ascendis again adds the five-basis point flotation cost to his summary of Indicated Common Equity Cost Rate before Adjustment for Unique Risk for the Base Year, Year 1, Year 2, and Year 3 as shown on Schedule DWD-1, page 2, lines 5, 7, and 8. His recommended ROE for the Base Year was 9.85% to 10.85% with a midpoint of 10.35% and adding his flotation cost .05% to the midpoint would be his recommended 10.40%.

Aqua witness D'Ascendis also testified on cross examination that, as stated by Aqua, one basis point (0.01%) of the Base Year equals \$20,812, Rate Year 1 equals \$22,008, Rate Year 2 equals \$23,055, and Rate Year 3 equals \$24,212 (Ex. vol. 6, D'Ascendis Direct Cross Exhibit No. 1, page 2). Aqua witness D'Ascendis testified over three years that his .05% flotation adjustment would provide Aqua, at these rates, \$346,000 in additional revenues. Tr. vol. 6, 21.

In response to a question from Commissioner Brown-Bland, Aqua witness D'Ascendis testified that he adds flotation costs for every utility that is publicly traded. Tr. vol. 6, 171. Aqua witness D'Ascendis was asked by Commission Brown-Bland which states have approved adding flotation costs to the approved return on equity, and the only state witness D'Ascendis named was Minnesota, despite the fact that his response to a Public Staff Data Request (Ex. vol. 6, D'Ascendis Direct Cross Examination Exhibit No. 2, page 4) stated that from June 2013 through June 2022 he testified on rate of return in 45 water and/or wastewater public utility cases in 19 different states.

Aqua witness D'Ascendis testified regarding the approximately 7% growth in dividends of Essential and water utilities generally. He was questioned about the Commission's Order Accepting Stipulation, Deciding Contested Issues and Granting Partial Rate Increase, Docket No. E-2, Sub 1142 (February 23, 2018), which stated in part: "Witness Hevert's DCF [discounted cash flow] dividend growth, component based solely on analysts' earning per share growth projections,

without consideration of any historical results, is upwardly biased and unreliable.”

Tr. vol. 6, 143-151; Ex. vol. 6, D’Ascendis Direct Cross Exhibit No. 11, page 3.

In calculating his predictive risk premium model, Mr. D’Ascendis stated that he excluded a company since the results of calculations yielded too large a figure.

Tr. vol. 6, 151-156. Under cross-examination, he explained:

A. [by Aqua witness D’Ascendis] No. The reason why it’s an NMF is because it fails the two-standard-deviation test for an outlier.

Q. [by the Public Staff] Okay. So your model has an unwritten rule in it that there’s a two-standard-deviation test, and if you’re out beyond it, you through it out, right?

A. Sure.

Tr. vol. 6, 154-155.

Witness D’Ascendis testified regarding the Non-Price Regulated Proxy Group, noting that although the industries may be different, the risks were similar and therefore reviewing them was appropriate. Tr. vol. 6, 155-159.

On redirect, Mr. D’Ascendis testified regarding the impact of settlements on published return on equity authorizations; a recent decision for Aqua Pennsylvania; the higher cost of capital; and the 10.4 sought return on equity. Tr. vol. 6, 160-162. He also addressed flotation costs; dividends and earnings; the nature of utility stocks; the importance of dividend growth; and how Commissions can view factors through time. Tr. vol. 6, 162-166.

In response to Commission questions, Aqua witness D'Ascendis testified regarding flotation costs, when he included them, and how he determined the basis point increase in all his cases. He testified his best estimate was that approximately 40 states did not allow flotation costs to be recovered in the authorized return on equity and 10 states did allow it.

Mr. D'Ascendis testified that investors did not generally take into account the cost burden or customers' ability to pay when deciding where to invest. In regard to the impact of a WSIP, he conceded it would reduce regulatory lag but argued Aqua would not be less risky than other utilities as a result of a WSIP since such mechanisms are widespread. He did not believe a WSIP impacted the creditworthiness of Aqua, noting that North Carolina's statutes did not have a "true-up" or collar whereby Aqua could raise rates if it was underearning. He testified that a WSIP protects customers since it mitigates rate shock. If faced with identical companies, one with a WSIP and one without, Witness D'Ascendis stated he would see no difference between them if he were investing and that different analysts may have different views. Tr. vol. 6, 166-215.

In his rebuttal testimony, Aqua witness D'Ascendis testified regarding his updated common equity cost determination models; however, his predictive risk premium model had to be modified. The results of his updates were as follows:

Updated Cost of Common Equity Results

	Using Current Interest Rates	Using Projected 2023 Interest Rates	Using Projected 2024 Interest Rates	Using Projected 2025 Interest Rates
Discounted Cash Flow Model	10.22%	10.22%	10.22%	10.22%
Risk Premium Model	12.06%	12.31%	12.18%	12.10%
Capital Asset Pricing Model	11.73%	11.84%	11.77%	11.75%
Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Companies	<u>11.65%</u>	<u>11.75%</u>	<u>11.69%</u>	<u>11.69%</u>
Indicated Range	10.64% - 11.64%	10.77% - 11.77%	10.70% - 11.70%	10.66% - 11.66%
Size Adjustment	0.00%	0.00%	0.00%	0.00%
Flotation Cost Adjustment	0.05%	0.05%	0.05%	0.05%
Indicated Range of Common Equity Cost Rates After Adjustment	<u>10.69% - 11.69%</u>	<u>10.82% - 11.82%</u>	<u>10.75% - 11.75%</u>	<u>10.71% - 11.71%</u>

Notwithstanding the update, he indicated that Aqua continued to seek a return on equity of 10.4%. Mr. D'Ascendis testified that economic conditions influenced the required cost of capital and required return on common equity; that his updated analysis considered the current capital market environment; that prior authorized rates of return for Aqua reflect the capital market conditions at those particular times; and that market conditions are riskier now than during Aqua's last four rate cases. Tr. vol. 9, 104-109.

Aqua witness D'Ascendis testified regarding the current capital market environment; the CPI's rise; the expectation that that inflation should moderate

towards the Fed's target of 2.00% inflation in the long term; the Chairman of the Fed's approach to bringing inflation back to its 2.00% target; the market's current pricing expectations of significant future Fed funds rate increases in line with the Fed's statements; the current inflationary environment's effect on authorized returns on equity and interest rates; and his observations regarding the current market environment. Tr. vol. 9, 109-117.

Aqua witness D'Ascendis noted agreement between Aqua and the Public Staff regarding the capital structure of 50% debt and 50% equity. He also accepted the long-term debt cost rate proposed by Public Staff witness Hinton of 3.97%. Tr. vol. 9, 117-118.

In regard to Public Staff witness Hinton's discounted cash flow model analysis and his growth rate analysis, Mr. D'Ascendis described evidence supporting the use of growth rates in same; argued there was no financial literature supporting Mr. Hinton's methodology; stated that but for Value Line, the data used by Mr. Hinton was not widely available; calculated what he believed should have been Mr. Hinton's results under the discounted cash flow model; and discussed elimination of certain companies from the results of Mr. Hinton's calculations. Tr. vol. 9, 118-124.

Mr. D'Ascendis testified regarding his concerns with Mr. Hinton's risk premium model; that he did not believe Mr. Hinton should rely exclusively on current interest rates in application of same; responded to Mr. Hinton's criticism

regarding interest rate forecasts; testified that current interest rates are not accurate predictors of future interest rates; disagreed with Mr. Hinton's use of annual authorized returns and interest rate data in his risk premium model; disagreed with Mr. Hinton's use of authorized returns on equity for the 2009-2022 time period when earlier data is available; and testified regarding the results of the regression analysis after reflecting a prospective bond and individual rate data in the place of annual rate data. Tr. vol. 9, 124-130.

Aqua witness D'Ascendis testified that Public Staff witness Hinton did not perform a comparable earning model analysis; that he conducted such an analysis in a manner similar to that used by Hinton in years past; and provided the results of same. Tr. vol. 9, 130-131.

Aqua witness D'Ascendis provided testimony summarizing the adjustments he made to Public Staff witness Hinton's common equity cost determination models; testified that Public Staff witness Hinton should have included flotation costs in his calculated return on equity; and added same to Mr. Hinton's calculations to derive the return on equity. Mr. D'Ascendis testified that the ratios of pre-tax coverage needed to qualify for a single "A" bond rating would support ROEs ranging from 6.12% to as high as 15.29%. Such a broad range of results led him to criticize Public Staff witness Hinton's use of the metric. Tr. vol. 9, 131-133.

Mr. D'Ascendis referenced Public Staff witness Hinton's testimony that a 20-basis-point reduction in the ROE was appropriate if a WSIP was granted and Mr. Hinton's reasons for same; testified regarding Mr. Hinton's adjustment for CAM in the event a WSIP is not granted; disagreed with Mr. Hinton's reductions; provided his position on regulatory mechanisms and the cost of common equity; averred Mr. Hinton did not survey all of the Utility Proxy Group for similar mechanisms; identified companies in the Utility Proxy Group that had operations in jurisdictions that permitted multi-year, forecasted future test year, or WSIC/SSIC mechanisms; and discussed studies addressing the relationship between rate stabilization mechanisms and ROEs in utilities. Aqua witness D'Ascendis asserted Public Staff witness Hinton failed to identify examples of a utility's credit rating being upgraded upon approval of a multi-year rate plan or decoupling mechanism; addressed Mr. Hinton's critiques of his 200-basis point ROE band; and responded to Mr. Hinton's criticism related to use of forecast interest rates. Tr. vol. 9, 133-139.

Under cross examination, Aqua witness D'Ascendis was examined regarding a recent article from Professor Blinder, a former vice chairman of the Federal Reserve, which discussed that inflation has been around 2.5% for the last five months. He testified: "I agree with the statements in this, and I agree that the tools that the Fed are using are working." He further testified that inflation over the long-term would moderate towards 2%. Tr. vol. 9, 143-147; Ex. vol. 10, D'Ascendis Rebuttal Cross Exhibit No. 6.

Regarding the impact of a WSIP, Mr. D'Ascendis testified regarding a whitepaper from the National Regulatory Research Institute which discussed whether commissions faced with multiyear rate plans may want to consider adjusting the authorized rate of return. He reiterated that a lower ROE was not warranted for the WSIP since the companies he analyzed already had "baked in" a reduction as many of the states they operated in had similar favorable ratemaking provisions. Tr. vol. 9, 147-152; Ex. vol. 10, D'Ascendis Rebuttal Cross Exhibit No. 3. When asked to quantify that "baked in" reduction, Aqua witness D'Ascendis was unable to do so, testifying: "Now you can't -- you can't quantify what the means in a price movement. It just -- you just can't do it." Tr. vol. 9, 152.

Aqua witness D'Ascendis was cross examined regarding what percentages of operations companies in the Utility Proxy Group occurred in states without WSIP or similar mechanisms. He did not disagree with the assertion that five of the six companies in the Utility Proxy Group had operations in states *without* a WSIP or similar mechanism. Tr. vol. 9, 152-155; Ex. vol. 10, D'Ascendis Schedule DWD-6R.

Aqua witness D'Ascendis indicated that he did not agree with comments filed in July 2019 that stated: "It is the Public Staff's opinion that, because the risk to the Companies would be significantly reduced through the ratemaking mechanisms they describe, the maximum allowable return on equity, ROE, and rate of return should be reduced in order to offset that reduction in risk and ensure

just and reasonable rates.” Tr. vol. 9, 155-157; Ex. vol. 10, D’Ascendis Rebuttal Cross Exhibit No. 5.

Mr. D’Ascendis also testified regarding an exhibit that showed that rate case expenses for the Company’s past two rate cases were approximately \$1.8 million, or approximately 80 basis points. Tr. vol. 9, 158-159; Ex. vol. 10, D’Ascendis Rebuttal Cross Exhibit No. 1.

Mr. D’Ascendis also addressed an update to a credit analysis from Moody’s Investors Service dated May 31, 2022, that provided that Essential (the ultimate parent of Aqua) had “credit strength” by being a holding company of low-risk regulated water, wastewater, and local distribution company utilities. Ex. vol. 10, D’Ascendis Rebuttal Cross Exhibit No. 4, page 5. He reviewed an exhibit that indicated that a factor that could lead to a favorable upgrade for Essential was “[i]mproved cost recovery in Pennsylvania or the vast majority of Essential’s other jurisdictions.” *Id.* at page 6. Tr. vol. 9, 159-163.

Mr. D’Ascendis also reviewed analyses of Essential by Baird Equity Research, HSBC Global Research, and RBC Capital Markets that showed favorable views of reductions in regulatory lag and recovery outside of rate cases. He also reviewed Morningstar Equity Research’s evaluation of Essential, which echoed the aforementioned analyses, and noted constructive rate regulation was feeding Essential’s growth. Morningstar used a 7.5% cost of equity for Essential but noted its expectation that investors would seek a 9% rate of return. Ex. vol. 10,

D'Ascendis Rebuttal Cross Exhibit No. 4. In regard to the 9% rate of return used by Morningstar, Aqua witness D'Ascendis stated his belief it was inaccurate and discussed the basis for his opinion. Tr. vol. 9, 163-171.

Mr. D'Ascendis was presented with a report from Fitch Ratings that noted that two utilities in Washington state had their "outlooks" favorably adjusted from negative to stable. Fitch explained their "Rating Outlooks improved as a result of the [Washington State] Senate Bill 5295, which was signed into law in May 2021. The legislation allows for multi-year rate plans, reducing regulatory lag." Ex. vol. 10, D'Ascendis Rebuttal Cross Exhibit No. 2, page 1. Aqua witness D'Ascendis indicated that he was not persuaded that a reduction in the Company's ROE was warranted if a WSIP were granted. Tr. vol. 10, 1-9.

Aqua witness D'Ascendis was crossed regarding the results of his updated common equity cost determination models which suggested ROEs ranging from 10.69 %to 11.82%, all of which are higher than the 10.4% ROE sought by Aqua. Mr. D'Ascendis conceded that in some cases the forecasted interest rates he used were far from the actual interest rates. In one case, the forecasted interest rates he used later proved to be 151 basis points higher than actual interest rates. Tr. vol. 10, 9-16.

Aqua witness D'Ascendis was cross-examined regarding the results of his discounted cash flow model, which indicated a return on equity of 10.22%. However, on cross-examination, Aqua witness D'Ascendis conceded that in using

the model he had discarded data from Middlesex Water (one of the companies in the Utility Proxy Group) because the results were below average bond yields. If the low results were added back into his calculations, it would reduce the results from 10.22% to 9.28%. Tr. vol. 10, 16-21.

Aqua witness D'Ascendis was cross-examined regarding the results of his adjustments to Public Staff witness Hinton's discounted cash flow model from which he had removed three components from Hinton's model. If those components were replaced, D'Ascendis' adjustment to Hinton's discounted cash flow model would be lower by approximately 100 basis points. Tr. vol. 10, 21-23.

On re-direct Aqua witness D'Ascendis testified regarding the reliability of historical yields as predictors of future returns in the context of the discounted cash flow model; Public Staff witness Hinton's use of the comparable earnings model in prior gas utility cases; the lookback period used by Hinton in his comparable earnings model and D'Ascendis' replication of same in his calculations; inflation; and the possibility of a recession. Tr. vol. 10, 23-30.

Testimony Of John R. Hinton

Public Staff witness Hinton testified in the event the WSIP is not approved, Aqua has requested the authority to implement a CAM. He testified if a CAM is implemented, it is appropriate to reduce the Company's ROE by 10 basis points.

Public Staff witness Hinton testified he believes that the enhanced protection from the volatility of revenues and the potential loss of revenue due to reductions in water usage with the CAM will work to stabilize earnings, which should contribute to a reduction in Aqua's business risk and investment risk. He testified these mechanisms are relatively new to the water utility industry; however, similar mechanisms have been employed in the natural gas industry. He testified in North Carolina, Piedmont Natural Gas Company, Inc.'s consumption Utilization Tracker program was first approved in Docket No. G-9, Sub 499 (filed February 28, 2005), and was later renamed the Margin Decoupling Tracker (MDT). He testified that Public Service Company of North Carolina, Inc. has a similar program that has worked to stabilize the Company's margins and, and consequently, its earnings. Public Staff witness Hinton testified that a WSIP reduces a utility's risks more than a CAM and this relative difference is reflected in the ten-basis point difference in the ROE the Public Staff recommends.

Public Staff witness Hinton testified the CAM reduces business risk by adjusting each customer's actual water consumption and corresponding revenue to the levels set in the most recent rate case, which adjusts a utility's stream of revenue to ensure that the average per consumption revenues are consistent with the currently approved rates. He testified that a WSIP reduces business risk by enhancing a utility's ability to match revenues and expenses. He testified that even though the CAM does not reduce regulatory lag with the recovery of capital costs,

that some recognition of the reduction in business risk introduced through the mechanism is appropriate.

Public Staff witness Hinton testified, as with the WSIP, quantifying this benefit is difficult. In a prior California Public Utilities Commission (CPUC) order, 91-10-042, the CPUC equated the mechanism with having the effect of a 20-basis point reduction in ROE due to reduced business risk. In recognition of the subjective nature involved, he believes that a ten-basis point reduction in the cost rate for common equity provides a reasonable degree of sharing of the benefits of the CAM. He testified that he recommended a similar ten-basis point adjustment in Aqua's ROE. However, the original CAM was withdrawn and instead a limited pilot program was approved.

Public Staff witness Hinton testified that assuming the WSIP is denied, and a CAM is approved by this Commission, he recommends the cost of common equity for Aqua be reduced by ten basis points to 9.40%. If the CAM is approved at 9.40% ROE, the pre-tax interest coverage ratio is approximately 4.1 times as shown in Hinton Direct Testimony Exhibit 7. He testified these levels of pre-tax interest coverage should allow Aqua to qualify for a single "A" bond rating.

Public Staff witness Hinton testified that he does not believe a flotation cost adjustment is warranted. He testified that Aqua's parent company, Essential, has not had a *public* issuance of common stock during the 2021 test year. He testified that the parent company did experience costs associated with its employee stock

purchase plan which totaled \$221,816. He testified he incorporated an allocation factor based on the relative common equity balances on Aqua and Essential of 2.9410%, which resulted in an allocated level of expense to Aqua of approximately \$6,200.

Public Staff witness Hinton testified that his position was that these costs are not at the level to warrant the creation of an operating expense and an amortization schedule to reflect the costs of issuing common equity through Essential's employee plans. He testified, additionally, the North Carolina Supreme Court has ruled inclusion of costs not incurred is not warranted. *Public Staff*, at 331 N.C. 215, 221-22, 415 S.E.2d 354, 358-359. Public Staff witness Hinton testified that based on the lack of a public issuance of common equity during the test year and the low level of costs associated with the Company's other compensation plans, he maintains that Aqua witness D'Ascendis' flotation cost adjustment is not warranted in this proceeding.

Public Staff witness Hinton testified on cross-examination that flotation costs are an expense. Tr. vol. 7, 146. Public Staff witness Hinton recommended the Commission review Docket No. E-22, Sub 333 (Avera case), a 1993 case with Dominion North Carolina Power company, which was the first case following the Supreme Court decision of 1992. Public Staff witness Hinton testified in that case, recommending flotation costs be an expense adjustment, because when the Company argues flotation costs are a cost rate of common equity, the recovery can be much larger than actual due expense. Tr. vol. 7, 148.

Public Staff witness Hinton, on cross examination, testified that Aqua witness D'Ascendis' direct cross exhibit no. 1 had a data point with a 2021 issuance expense of several million dollars. Witness Hinton testified that was a forward sale of common equity. Tr. vol., 7, 150. He testified the forward sale was announced August 8, 2022, outside of the test year. He testified the forward sale was consummated by August 2021, but the expense was incurred in the year 2020, when Essential had to arrange for the forward sale with RBC Bank. Public Staff witness Hinton further testified that it is an important difference and explained that Aqua responded to his data request with a statement that said the test year issuance expense was \$221,000.

On redirect, Public Staff witness Hinton testified that of the \$221,000 test year issuance cost provided by Aqua, the Aqua allocation was \$6,200. He testified he calculated the \$6,200 look at the Aqua common equity balance compared to the common equity balance of Essential. He testified the \$6,200 was not at the level to warrant creation of an operating expense and amortization. Tr. vol. 7, 155.

In response to questions from Commission Brown-Bland, Public Staff witness Hinton testified that he was unaware of Minnesota including the flotation cost adjustment in the ROE calculation, and as to the other states, he knows it is rarely, if ever, done. Tr. vol. 7, 155.

Public Staff witness Hinton testified in response to questions from Commissioner Brown-Bland related to the flotation costs prior to the year cited by

Aqua witness D'Ascendis, that flotation costs prior to the test year were in the Avera case, and witness Hinton recommended the Commission review that case.

In response to questions from Commissioner Clodfelter, Public Staff witness Hinton testified that flotation costs are recorded to Account 213 of the Uniform System of Accounts and that the utility may amortize the balance carried in this account by systematic charges to Account 426 miscellaneous non-utility expenses. Tr. vol. 7, 161-162.

Public Staff witness Hinton testified in response to Public Staff follow up questions to the Commissioners' questions that Essential contracted with RBC, and that they agreed upon a price at which Essential would issue the common stock, and that the RBC had a challenge of issue over the next 12 months. He testified that Essential locked in a deal ahead of time, and that is the nature of a forward sale. Tr. vol. 7, 164.

Joint Testimony of Boswell, Hinton, Junis, Sun and Zhang

Public Staff witness Hinton recommended that if the Commission approves the WSIP, an overall cost of capital of 6.63%, as shown in Public Staff WSIP Exhibit 8. He testified that this recommendation is based upon a proposed capital structure consisting of 50.00% common equity and 50.00% long-term debt, a debt cost of 3.97% and a 9.30% ROE. The recommended ROE includes a 20-basis point reduction due to the WSIP shown in Public Staff WSIP Exhibit 9.

If the Commission does not approve the Company's request for a WSIP or a CAM, the Public Staff recommended an overall cost of capital of 6.74%, as shown in Hinton Exhibit 6. This recommendation is based upon a proposed capital structure consisting of 50.00% common equity and 50.00% long-term debt, a debt cost of 3.97% and a 9.50% ROE.

Public Staff witness Hinton testified that the Public Staff recommends a ROE of 9.40% if the Commission approves the Company's CAM request. He testified the Public Staff's recommended ROE, in assuming approval of the CAM, is ten basis points higher than the Public Staff's recommended ROE if the Company's WSIP request is approved, and ten basis points lower than the Public Staff's recommended 9.50% ROE if the Commission denies the Company's request for a CAM and WSIP. He testified that the reductions in ROE reflect the Public Staff's position on the Company's risk under two different alternatives to traditional historic test year ratemaking. He testified that the differences in the reduction reflect the Public Staff's position on which mechanism has the greatest impact on the Company's risk.

Public Staff witness Hinton testified that the Public Staff made a 20 point downward adjustment to its recommended ROE because the following WSIP features reduce the Company's risk:

(1) The Company is, to some extent, insulated from future changes in expenses because the WSIP allows the Company to forecast future expense levels using inflation and growth factors.

(2) The Company can include future capital investments in rate base and begin earning a return on those investments before the utility plant is used and useful and without filing a rate case application or WSIC/SSIC application. This reduces regulatory lag significantly and, in some cases, allows the Company to begin earning a return on utility plant additions a full year earlier than it would be able to using the WSIC/SSIC mechanism set forth in N.C.G.S. §62-133.12.

(3) The Company's approved rates increase annually, and those increases take both the forecasted future expense levels and expedited inclusion of new capital investments in rate base into account.

Mr. Hinton testified that the features he listed highlight the way in which an approved WSIP appreciably reduces regulatory lag and improves the Company's ability to align future revenues with expected future costs.

Witness Hinton testified that this mechanism is seen by debt and equity investors as supportive regulation that mitigates business risk and regulatory lag. For example, as shown in Public Staff WSIP Exhibit 10, Moody's bases 50% of its credit evaluation process on the applicable regulatory framework and a utility's ability to recover costs and earn a return. These factors alone count more in Moody's credit evaluation process than a utility's financial metrics. In a similar

investment report, Janney's Water Industry Report (included as Public Staff WSIP Exhibit 11) states that: "[w]hen we evaluate the regulatory climate of a state, we focus on three items: consistency of regulatory treatment, allowed ROE, and efforts to minimize the effects of regulatory lag." Mr. Hinton testified that the January report was written in 2009, but the same investment concerns exist today and are applicable to Aqua.

Public Staff witness Hinton testified that there are other reasons for reducing the ROE if a WSIP is approved. He testified that a stated customer benefit of the WSIP is a reduction in the frequency of rate cases. Aqua's proposed three-year amortization of the rate case expense for this instant proceeding is \$472,157. He testified that, in the Public Staff's view, the cost savings associated with a reduction in the frequency of rate cases is inadequate.

Public Staff witness Hinton testified that the MYRP component of the WSIP reduces non-weather-related earnings volatility because it enhances a utility's ability to offset increases in expenses with increases in service revenues outside the confines of a general rate case. He testified that it is important to note that the earnings volatility safeguard an MYRP creates is buttressed by the fact that the majority of water use is for non-discretionary purposes, such as, drinking, bathing, cleaning, and washing clothes.

Public Staff witness Hinton testified that Moody's sees MYRPs as credit positive. Public Staff WSIP Exhibit 12 contains a March 24, 2022 Credit Opinion

by Moody's Investor Service on Duke Energy Progress, LLC (DEP Opinion) and an August 26, 2021 Credit Opinion on Puget Sound Energy, Inc. (PSE Opinion). He testified that the DEP Opinion considers recent legislation allowing MYRPs in North Carolina and the PSE Opinion considers similar MYRP legislation in Washington. He testified that both Opinions note that this new regulatory framework is a positive development toward mitigating regulatory lag, and it provides for greater revenue visibility and transparency. He testified that given Moody's emphasis on monitoring a utility's cash-flow, a mechanism that allows for immediate cost recovery works to directly improve its cash-flow risk metrics and is seen as a credit positive. He testified MYRPs also foster greater revenue visibility and transparency for the utility, its customers, other stakeholders, and regulators. He testified that Moody's and other credit rating agencies give enhanced ratemaking mechanisms that lead to consistency and predictability of utility regulation positive weight.

Public Staff witness Hinton testified that the ability to offset predicted increases in costs due to inflation and customer growth with periodic rate increases are important for utilities and investors because it provides a level of protection against increasing expenses that is not present with traditional ratemaking or infrastructure surcharges. He testified it is reasonable that the enhanced matching of revenues and expenses is viewed positively by both debt and equity investors.

Governing Principles in Setting the Rate of Return on Equity

The North Carolina Supreme Court has explained ROE as follows:

ROE is the return that a utility is allowed to earn on its capital investment, which is realized through rates collected from its customers. The ROE affects profits to the utility's shareholders and has a significant impact on what customers ultimately pay the utility. The higher the ROE, the higher the resulting rates that customers will pay to the utility.

State ex rel. Utils. Comm'n v. Cooper, 366 N.C. 484, 485, 739 S.E.2d 541, 542 fn. 1 (2013) (citation omitted) (*Cooper I*).

The parties to this proceeding have been unable to reach agreement regarding the appropriate rate of return on common equity. This is understandable as this is often one of the most contentious issues to be addressed in a rate case. See, e.g., Order on Petition and Applications of Duke Energy Carolinas, LLC for Approval of Prepaid Advantage Program; For Adjustment of Rates and Charges Applicable to Electric Utility Service in North Carolina; and For an Accounting to Defer Incremental Storm Damage Expenses Incurred as a Result of Hurricanes Florence and Michael and Winter Storm Diego, Docket Nos. E-7, Sub 1213, 1214, 1187 at 86 (N.C.U.C. March 31, 2021).

Where, as here, there is an issue unresolved by the parties, the Commission must exercise its independent judgment and arrive at its own independent conclusion as to all matters at issue, including the ROE. See, e.g., *State ex rel. Utils. Comm'n v. Carolina Util. Customers Ass'n, Inc.*, 348 N.C. 452, 466, 500 S.E.2d 693, 707 (1998) (*CUCA I*). In order to reach an appropriate independent conclusion regarding the rate of return on common equity the

Commission should evaluate the admitted evidence, particularly that presented by conflicting expert witnesses. *Cooper I* 366 N.C. at 492-93, 739 S.E.2d at 546-47.

The baseline for establishment of an appropriate rate of return on common equity is the constitutional constraints established by the decisions of the United States Supreme Court in *Bluefield* and *Hope* which, as the Commission has previously noted, establish that:

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

See, e.g., Order Granting Partial Rate Increase and Requiring Customer Notice, *Application by Carolina Water Service, Inc. of North Carolina for Authority to Adjust and Increase Rates for Water and Sewer Utility Service in All of its Service Areas in North Carolina*, Docket No. W-354, Sub 365 at 67 (N.C.U.C. March 31, 2020) (2020 CWSNC Rate Case). See, also, *State ex rel. Utilities Commission v. General Telephone Co. of the Southeast*, 281 N.C. 318, 189 S.E.2d 705 (1972) (*General Telephone*). As the North Carolina Supreme Court held in *General Telephone*, these factors constitute “the test of a fair rate of return declared in” *Bluefield* and *Hope*. *Id.* at 281 N.C. at 370, 189 S.E.2d at 738.

The rate of return on common equity is, in fact, a cost. The return that equity investors require represents the cost to the utility of equity capital. As the Commission has previously explained:

[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.

2020 CWSNC Rate Case at 67 (citing Roger A. Morin, *Utilities' Cost of Capital* (Public Utilities Reports, Inc. 1984) at 19-21). "The term 'cost of capital' may [also] be defined as the annual percentage that a utility must receive to maintain its credit, to pay a return to the owners of the enterprise, and to ensure the attraction of capital in amounts adequate to meet future needs." *Id.* (citing Charles F. Phillips, Jr. *The Regulation of Public Utilities* (Public Utilities Reports, Inc., 3rd ed. 1993) pg. 388).

Long-standing decisions of the North Carolina Supreme Court have recognized that the Commission's subjective judgment is an inherently necessary part of determining the authorized rate of return on common equity. *State ex rel. Utilities Comm. v. N.C. Natural Gas Corp.*, 323 N.C. 481, 498, 374 S.E.2d 361, 370 (1988) (*Public Staff*). The Commission has described that "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." *Order Granting General Rate Increase, Application of Carolina Power & Light Company, d/b/a Progress Energy Carolinas, Inc., for Adjustment of Rates and Charges Applicable to Electric Utility Service in North*

Carolina, Docket No. E-2, Sub 1023 at 35 (N.C.U.C. May 30, 2013), *affirmed in State ex rel. Utils. Comm'n v. Cooper*, 367 N.C. 444, 761 S.E.2d 640 (2014) (2013 DEP Rate Case Order).

Determination of a ROE is not made by application of any one simple mathematical formula. *2020 CWSNC Rate Case* at 67. “Setting an ROE for regulatory purposes is not simply a mathematical exercise, despite the quantitative models used by expert witnesses.” *2013 DEP Rate Case Order* at 35. The Court in *Hope* held that “the Commission was not bound to the use of any single formula or combination of formulae in determining rates.” 320 U.S. at 602. As this Commission has stated previously:

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.

2020 CWSNC Rate Case at 67-68; *2013 DEP Rate Case Order* at 35-36 (both citing Charles F. Phillips, Jr., *The Regulation of Public Utilities* (Public Utilities Reports, Inc., 3rd ed. 1993), pp. 381-82 (notes omitted)) (ellipses and brackets in original).

The Supreme Court has observed that “[t]he economic judgments required in rate proceedings are often hopelessly complex and do not admit of a single correct result.” *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 314 (1989) (*Duquesne*). The Court stated:

To declare that a particular method of rate regulation is so sanctified as to make it highly unlikely that any other method could be sustained would be wholly out of keeping with this Court's consistent and clearly articulated approach to the question of the Commission's power to regulate rates. It has repeatedly been stated that no single method need be followed by the Commission in considering the justness and reasonableness of rates.

Duquesne 488 U.S. at 316 (citations, quotations, and brackets omitted). Commissions may find that “circumstances may favor the use of one ratemaking procedure over another.” *Id.*

This Commission is mindful of the impact of its decisions and the law, especially the Public Utilities Act. The Supreme Court explained that “[t]he risks a utility faces are in large part defined by the rate methodology because utilities are virtually always public monopolies dealing with an essential service, and so relatively immune to the usual market risks.” *Duquesne* 488 U.S. at 315.

A number of factors inform the Commission’s judgment and establishment of an appropriate return on equity for the Company.

In conformity with the requirements of *Cooper I*, recent Commission decisions have addressed the impact of changing economic conditions on customers when determining the proper ROE for a utility. See, e.g., *2020 CWSNC Rate Case* at 69. Although Senate Bill 211 (Session Law 2021-149) (Senate Bill 211) itself contains no explicit requirement that when setting rates the Commission must “consider[] changing economic conditions...”, Senate Bill 211 did not repeal N.C.G.S. § 62-133 or § 62-133.1. Moreover, akin to the statute *Cooper I* addressed, Senate Bill 211 requires that the Commission “establishes rates that are fair both to the customer and to the water or sewer utility ... [and] is otherwise in the public interest.” N.C.G.S. § 62-133.1B(b)(ii), (v). Further, the *Cooper I* Court used broad language in its holding:

Given the legislature's goal of balancing customer and investor interests, the customer-focused purpose of Chapter 62, and this Court's recognition that the Commission must consider *all* evidence presented by interested parties, which necessarily includes customers, it is apparent that customer interests cannot be measured only indirectly or treated as mere afterthoughts and that Chapter 62's ROE provisions cannot be read in isolation as only

protecting public utilities and their shareholders. Instead, it is clear that the Commission must take customer interests into account when making an ROE determination. Therefore, we hold that in retail electric service rate cases the Commission must make findings of fact regarding the impact of changing economic conditions on customers when determining the proper ROE for a public utility.

Cooper I at 366 N.C. 495, 739 S.E.2d 548 (italics in original).

The Commission must not only adhere to the dictates of both the United States and North Carolina Constitutions, but, as has been held by the North Carolina Supreme Court, it is “the duty of the Commission to set rates as low as constitutionally possible.” *Public Staff* at 323 N.C. at 507, 374 S.E.2d at 375 (citation omitted).

Consideration of economic conditions is warranted as a component of its consideration of Aqua’s WSIP Application for four reasons. First, N.C.G.S. §§ 62-133 and 62-133.1 were not repealed by Senate Bill 211. Second, the language of *Cooper I* quoted above is broad in its sweep. Third, Senate Bill 211 weaves its provisions into existing laws which remain applicable. Fourth, economic condition considerations are embedded within the criteria that Senate Bill 211 charges the Commission to consider, especially given its requirement that “the Commission shall consider whether the water or sewer utility’s application, as proposed, (i) establishes rates that are fair both to the customer and to the water or sewer utility, (ii) reasonably ensures the continuation of safe and reliable utility services, (iii) will not result in sudden substantial rate increases to customers annually or over the

term of the plan, (iv) is representative of the utility's operations over the plan term, and (v) is otherwise in the public interest." N.C.G.S. § 62-133.1B(b).

Note that N.C.G.S. § 62-133.1B(b) includes a number of criteria or factors for the Commission's consideration. In considering a similar statute involving particularized factors for the Commission to consider, the Court held that the Commission is obligated to address each such factor. *Cooper I* at 366 N.C. at 494, 739 S.E.2d at 547 ("the Commission must consider and make its determination based upon *all factors* particularized...") (italics in original). Accordingly, the Commission will also consider all the criteria and factors set forth in Senate Bill 211 in addition to other required factors.

The criteria of Senate Bill 211 require consideration of elements beyond the ROE element, and it inherently necessitates that the Commission make many subjective determinations, in addition to the subjectivity required to determine the ROE. The subjective decisions the Commission must make as to each of the elements of the criteria can, and often do, have multiple and varied impacts on all of the other criteria and elements. In other words, the criteria are intertwined and often interdependent in their impact on the setting of just and reasonable rates. See *2020 CWSNC Rate Case Order* at 69.

The Commission must exercise its subjective judgment so as to balance multiple competing ROE-related factors, including the economic conditions facing the Company's customers and the Company's need to attract equity financing on

reasonable terms in order to continue providing safe and reliable service. The impact of changing economic conditions on customers is embedded in the testimony of expert witnesses regarding their analyses of the rate of return on common equity using various economic models widely used and accepted in utility regulatory rate-setting proceedings. *Id.* Further,

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

Id. at 70; and see *DEP Rate Case Order* at 37-38.

Economic conditions existing throughout the relevant time periods will affect not only the ability of the utility's customers to pay rates, but also the ability of the utility to earn the authorized rate of return during the period the new rates will be in effect. This is especially true given the future-looking provisions of Senate Bill 211.

The Commission's duty 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 costs 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.

Chapter 62 of the North Carolina General Statutes in general set forth a detailed formula the Commission must employ in establishing rates. The rate of return on equity is a significant but not independent element. 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. The Commission is tasked in a rate case with, for example, approving accounting and pro forma adjustments to comply with N.C.G.S. § 62-133(b)(3) and depreciation rates pursuant to N.C.G.S. § 62-133(b)(1). The decisions the Commission makes in each of the many subjective areas under its purview 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 all relevant times (from the test or base year, at the time of the public hearings, and at the date of this Commission Order) affect not only the ability of Aqua's consumers to pay water and wastewater utility rates, but also the ability of Aqua to earn the authorized rate of return during the period rates will be in effect.

THE SETTLEMENT STIPULATION

In this matter, Aqua and the Public Staff filed a joint partial settlement agreement and stipulation (Stipulation). The Public Staff and Aqua are the only parties to this proceeding. Accordingly, the Stipulation represents the unanimous consent agreement of all parties to the case with respect to those issues it addresses.

Stipulations in contested proceedings are to be “encourage[d]” by the Commission. N.C.G.S. §62-69(a). Further, the “Commission may make informal disposition of any contested proceeding by stipulation...” (*id.*), “even general rate cases...” *CUCA I* at 348 N.C. 462, 500 S.E.2d 701 (citation omitted). Informal disposition plays a crucial role in efficiently resolving many contested proceedings. *Id.* at 348 N.C. 466, 500 S.E.2d 703.

Per the Stipulation, all parties to the case agreed that the capital structure to be used in this proceeding should be deemed to consist of 50% debt and 50% equity. Further, the parties in their testimony agreed upon this capital structure.

Per the Stipulation, all parties to the case agreed that the cost rate of debt to be used in this proceeding should be 3.97%. Further, the parties in their testimony agreed upon this capital structure.

Per the Stipulation, all parties to the case agreed that the banding of authorized returns for WSIP Rate Years 1, 2, and 3 shall be zero basis points above and 50 basis points below the authorized return on equity.

The Commission notes that the partial settlement came at the end of discovery and a contested hearing. The Stipulation is supported by evidence in the record and represents an agreement between all the parties to the case. As further and independent grounds in support of accepting these provisions of the Stipulation, the Commission finds that the provisions cited above represent an acceptable and reasonable result that balances the applicable factors. Accordingly, the Commission finds the terms set forth above are just, reasonable, and appropriate and accepts same.

DISCUSSION

The Commission has carefully evaluated and reviewed the facts and applicable law. The Commission has weighed the evidence and makes the following findings in the exercise of its judgment, discretion, and expertise.

A. RETURN ON EQUITY

Although the ultimate parent of Aqua is publicly traded, Aqua itself is not. The Commission finds that because Aqua is not publicly traded, it is appropriate to look to a proxy group to use in modeling appropriate rates of return. The Commission notes that the utility proxy group used by Aqua witness D'Ascendis in

his rebuttal testimony is the same used by Public Staff witness Hinton in his testimony. The Commission finds the use of the utility proxy group and the composition of same proposed by the witnesses is warranted and appropriate. It is in keeping with the principles of a fair rate of return established in the *Hope* and *Bluefield* cases, which are recognized as the primary standards for establishment of a fair rate of return for a public utility.

In reporting the results of his calculations, Aqua witness D'Ascendis often computes the (a) average, (b) median, and (c) average of the average and median. The Commission has focused on the averages calculated by Aqua witness D'Ascendis for three separate and independent reasons: (1) it allows for an “apples to apples” comparison with the calculations performed by Public Staff witness Hinton; (2) the Commission is experienced with reviewing modeling results and does not need the additional information provided beyond averages; and (3) the averaging of averages adds additional layers to already computed figures that risks an anodyne smoothness that can provide less information. Accordingly, averages are favored throughout this Order.

Aqua witness D'Ascendis applied his models to a proxy group consisting of dozens of non-price-regulated companies. Regardless of the calculations applied to this group, the Commission is unpersuaded by the results due to the differences between them and Aqua. The Company is a regulated monopoly which provides a vital and essential service. As a second, independent reason in support, the Commission notes the average results of the common equity cost determination

models in Aqua witness D'Ascendis' direct testimony ranged from 10.68% (under the discounted cash flow model) to 11.79% - 12.33% (under the risk premium model) to 10.84% - 11.38% (under the capital asset pricing model). All the results are above the return on equity requested by the Company. As a third, independent reason in support, the Commission finds the results are outliers, especially when compared to recent Commission ROE awards. Any of these three reasons supports the Commission's determination that applying the common equity cost determination models to the Non-Price Regulated Proxy Group does not yield helpful information; accordingly, those results are discounted by the Commission. The Commission favors the results of information derived from the Utility Proxy Group.

Aqua witness D'Ascendis was cross-examined regarding the variance in his suggested returns on equity versus the returns actually awarded in other cases. The Commission received testimony that over his past 37 cases, Aqua witness D'Ascendis' recommended return on equity was between 1.18% to 1.36% higher than the return awarded by the jurisdictions where he provided testimony. The Commission is unpersuaded that this variance should be disregarded simply because many of the cases in which Aqua witness D'Ascendis provided testimony were later settled. While this fact is one piece of evidence for the Commission's consideration, it is not dispositive.

The Commission now turns to its evaluation of the individual models used to provide guidance as to an appropriate return on equity for Aqua.

Discounted Cash Flow Model

Aqua witness D'Ascendis and Public Staff witness Hinton both utilized a discounted cash flow model to provide information regarding an appropriate return on equity.

Aqua witness D'Ascendis' calculations in his direct testimony yielded an average ROE calculation of 9.03%. Similarly, Public Staff witness Hinton's calculations in his prefiled testimony also yielded an average ROE calculation of 9.03%.

In his rebuttal testimony, Aqua witness D'Ascendis showed a substantial increase and stated an average ROE of 10.12% resulted. However, under cross it became apparent that Aqua witness D'Ascendis only achieved this substantial increase by discarding data from one of the companies (Middlesex Water) in the Utility Proxy Group. If the discarded data were re-included, the resulting ROE would be 9.28%. The Commission finds excluding the lowest calculation has a strong and unwarranted upward pressure on Aqua witness D'Ascendis' calculations. This is especially true since Aqua witness D'Ascendis did not exclude the highest computed result. The purpose of using a group is to capture a range of possibilities that can be used to inform the Commission. Averages compensate for swings in ranges. It was inappropriate for Aqua witness D'Ascendis to exclude Middlesex Water from the Utility Proxy Group.

There are differences in the discounted cash flow common equity cost determination models used by the experts. One difference in Aqua witness D'Ascendis' and Public Staff witness Hinton's discounted cash flow modeling lies in witness Hinton's use of "historical data." Aqua witness D'Ascendis' arguments and cited authorities do not persuade the Commission that historical data should be excluded. The Commission agrees that Public Staff witness Hinton's inclusion of both known historical growth rates and forecasted growth rates is appropriate because it is reasonable to expect investors to consider both. This has long been the position of this Commission, and for good reason. Historical data is widely available and reported on. The Company's exclusion of historical data in its discounted cash flow modeling places an unwarranted upward pressure on the return on equity calculations.

Aqua witness D'Ascendis purported to re-calculate Public Staff witness Hinton's discounted cash flow common equity cost determination model – but without using historical data – and derived an ROE of 10.06%. The Commission is unpersuaded for two separate and independent reasons. First, as discussed above, exclusion of historical data is unwarranted. Second, this result also stems from the discarding of several data results. If the excluded results were returned to the re-calculation, the computed ROE would drop by nearly 100 basis points.

The Commission finds that the discounted cash flow common equity cost determination models all suggest a return on equity in the range of 9.03% to 9.28% is warranted.

Risk Premium Model

Aqua witness D'Ascendis and Public Staff witness Hinton both utilized a risk premium model to provide information regarding an appropriate return on equity.

Public Staff witness Hinton's analysis resulted in a suggested return on equity of 9.94%. Public Staff witness Hinton testified that one of the strengths 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, and thus it is reasonable to conclude that the approved allowed returns are good estimates of the cost of equity. Aqua witness D'Ascendis' risk premium models resulted in a wide range of suggested returns: on direct, an average result under the predictive risk premium model ranging from 11.76% to 12.87%; on direct, an average result under the total market approach risk premium model ranging from 10.87% to 11.32%; on rebuttal, an average result under the predictive risk premium model ranging from 13.12% to 13.35%; and on rebuttal, an average result under the total market approach risk premium model ranging from 11.45% to 11.72%. Three facts militate against providing too much weight to Aqua witness D'Ascendis' results. First, the lowest number in this range is greater than the ROE requested by Aqua. Although this is to be expected when multiple common equity cost determination models are employed, the sheer magnitude of the variance militates against too much weight being placed in the results. Second, the results are far above other returns on equity recently approved by the Commission. Third, some of these already high results would have been higher

had data not been excluded. For example, one company's data was excluded by Aqua since the results of the calculations yielded too large a figure. Troublingly, this exclusion was based on an unwritten rule that results more than two-standard deviations above are discarded.

Another issue is that Aqua witness D'Ascendis relies on forecast interest rates for many of his risk premium results. The Commission agrees with Public Staff witness Hinton that the cost of equity should not be based on forecasted interest rates. It is reasonable to expect that investors' pricing of bonds is already based on expectations of future interest, inflation, supply, and the like; accordingly, current interest rates are better used in the risk premium model. The Commission's determination is bolstered by the examples in Public Staff witness Hinton's testimony of instances where predicted future interest rates were far from the actual rates that came to pass. The Commission disagrees with Aqua witness D'Ascendis' assertion this is not relevant.

Although Aqua witness D'Ascendis generally agreed with witness Hinton's use of a risk premium model, he disagreed with several components witness Hinton used in his model. However, when Aqua witness D'Ascendis modified Public Staff witness Hinton's risk premium model with certain changes, witness D'Ascendis derived an ROE of 9.98% – nearly identical to the same result as witness Hinton. Accordingly, the Commission finds the risk premium model should appropriately suggest a result in the range of 9.94% to 9.98%.

Capital Asset Pricing Model

Only Aqua witness D'Ascendis utilized a capital asset pricing model. The average return on equity returned by these results ranged from 11.30% to 11.77% on direct and 11.90% to 12.00% on rebuttal. Two facts militate against providing too much weight to Aqua witness D'Ascendis' results. First, the lowest number in this range is greater than the ROE requested by Aqua. Although this is to be expected when multiple common equity cost determination models are employed, the sheer magnitude of the variance militates against too much weight being placed in the results. Second, the results are far above other returns on equity recently approved by the Commission.

Additionally, Aqua witness D'Ascendis' capital asset pricing model has multiple components, some of which rely on forecasts, including future interest rates. As above, the Commission agrees with Public Staff witness Hinton that the cost of equity should not be based on forecasted interest rates, and those findings are incorporated here by reference.

The Commission is unpersuaded by Aqua's evidence stemming from application of the traditional capital asset pricing model and the empirical capital asset pricing model.

Comparable Earnings Analysis

Aqua witness D'Ascendis, on rebuttal, testified that despite the fact that in at least two recent rate cases, Docket Nos. G-9, Sub 781 and G-5, Sub 632, Public Staff witness Hinton considered a comparable earnings analysis (CEM) as a check on his results, witness Hinton chose not to do so in this proceeding.

The Commission notes that Aqua witness D'Ascendis testified he conducted a CEM analysis similar to what Public Staff witness Hinton conducted in prior rate cases, and though he disagrees with the application of Public Staff witness Hinton's CEM analysis, he examined six years of Value Line historical earned returns on equity for each company in his proxy group, as witness Hinton did in both of the prior mentioned proceedings. Aqua witness D'Ascendis testified as shown in Schedule DWD-4R, based on historical returns, the average ROE is 10.01% (median 10.00%).

The Commission finds the CEM and its application flawed. For example, American States Water's approved return on equity was 8.9% by order dated March 24, 2018, per the Public Staff witness Hinton's testimony. Tr. vol. 8, 224. And See D.18-03-035, *Decision Fixing Cost of Capital for Calendar Years 2018, 2019 and 2020 for California Water Service Company, California-American Water Company, Golden State Water Company and San Jose Water Company*, dated March 22, 2018. However, American States Water's earned ROE (from DWD-4R) for 2018 was 11.4%, for 2019 was 14.0%, for 2020 was 13.5%, and for 2021 was

13.8%. An average of the four years is 430 basis points above American States Water's approved 8.9% ROE. Similarly, the 17.3% earned ROE for American Water Works was a substantial outlier as the previous five-year average was 9.5%. The Middlesex Water Company commission-approved ROE was 9.6% by order dated March 24, 2018; however, Middlesex Water's earned ROE (from DWD-4R) for 2018 was 13.0%, for 2019 was 10.4%, for 2020 11.1%, and for 2021 was 9.9%.

The Commission notes that a Value Line Report for American Water Works dated April 8, 2022, filed by Aqua witness D'Ascendis at Schedule DWD-3 under the heading "American Water Works Finished Up Another Successful Year" states: "It should be noted that a one-time \$2.70-a-share gain was registered for the profit made on the sale of its Homeowners Insurance Group in a transaction valued at \$1.275 billion." This 2021 transaction explains the 2021 ROE of 17.3%.

Further, Aqua witness D'Ascendis did not break out the achieved ROEs from commission-regulated water and wastewater utility service from the non-regulated earned ROEs.

For all of these reasons, the Commission finds the comparable earnings analysis prepared by Aqua witness D'Ascendis is entitled to no weight as it is not credible, probative, or a reliable analysis for the determination of a Commission-approved ROE for Aqua.

Other Jurisdictions

North Carolina is unique. The Commission determines the appropriate rate of return on common equity based on the evidence and particular circumstances of each case before it. The Commission bases its decision on the evidence in this proceeding and North Carolina law.

However, the Commission is not unmindful of awards by other commissions in other jurisdictions. These other awards provide a check or additional perspective, on a case-by-case basis, on potentially appropriate returns on equity. Further, regulated utilities must operate within the same field and therefore “compete” with other regulated utilities for capital and investment. As such, a rate of return substantially lower than other utilities could harm a company’s ability to attract capital or investment while a rate of return substantially higher could result in customers paying more than necessary.

The Commission disregards Aqua witness D’Ascendis’ contentions that other commissions are relying on “stale” data. The Commission has no evidence that its counterparts in other states are any less attentive to current events than it. Nor does the Commission substantially reduce or increase the weight it places on nationwide reports simply because cases were litigated or settled. While a settlement often reflects a give-and-take, it is reasonable to expect the parties to have insight into what returns on equity would be awarded and not move too far beyond this expectation simply to achieve a settlement.

Accordingly, the Commission finds as a check on its decision in this case the RRA report showing the 2021 nationwide average ROE award was 9.46% while the 2022 average (through November 3) ROE award nationwide was 9.59%. The Commission notes this 9.59% is somewhat elevated by the Pennsylvania decision to include a management performance bonus of 25 basis points.

Flotation costs

The North Carolina Supreme Court in *State ex rel. Utilities Commission v. Public Staff*, 322 N.C. 689, 370 S.E.2d 567 (1988) reversed and remanded the ROE portion of the Commission's Order dated October 31, 1986, Docket No. E-7, Sub 408 for Duke Power Company. The Supreme Court ruled that on remand the Commission was directed to reconsider the proper rate of return on Duke Power's common equity and also support its conclusion on flotation costs with specific findings. There was no evidence in that case that Duke Power intended to issue new stock for the next three or four years. On remand, the Commission issued its second E-7, Sub 408 Order, reassessed the evidence, and issued new findings of fact and conclusions. The Commission concluded that 13.2% was a fair rate of return on Duke Power's equity and there was a 0.1% increment in the approved 13.2% ROE to cover future stock issuance costs. On the second appeal, the Supreme Court held that the Commission's inclusion of the "stock" issuance increment is not supported by substantial evidence in view of the whole record. 331 N.C. 215 at 218 (1992). The Supreme Court concluded the Commission's inclusion of a 0.1% ROE increment for purported future financing costs in the

approved ROE was not based upon substantial evidence in view of the whole record. The Supreme Court stated at pages 221-222:

As we noted on the first appeal, an 0.1% upward increment in Duke's rate of return on common equity costs ratepayers \$ 4.2 million annually in additional rates. Historically, Duke's average costs per issuance of stock was \$ 3.2 million. In light of the whole record on this issue, particularly in the absence of any evidence that Duke intended to issue stock in the immediate future, there is simply no substantial evidentiary support for the Commission's addition of a 0.1% increment to Duke's rate of return on common equity to cover future stock issuance costs.

The Supreme Court further stated and ruled:

On the first appeal of this case, we questioned whether the record supported *any* adjustment whatever in the rate of return for purported future stock issuance, or financing, costs. We said:

Since *no* evidence was introduced that Duke intends to issue new stock for the next three or four years, and because there was no evidence regarding the probable cost of a prospective issuance, we question whether the record supports *any* financing cost adjustment. *State ex. rel. Utilities Commission v. Public Staff*, 322 N.C. at 700, 370 S.E.2d at 574 (emphasis added). We are not satisfied, for the reasons alluded to in our first opinion, that the record supports no such adjustment in the common equity rate of return.

Id. at 221.

There has been no evidence that Essential plans to make a public stock offering in the near future, which Aqua witness D'Ascendis verified. As the Supreme Court stated above, the Commission finds there is simply no evidentiary support for Aqua's requested .05% ROE flotation adjustment to cover future stock issuance costs.

The Commission concludes that the ROE .05% flotation adjustment recommended by Aqua witness D'Ascendis is entitled to no weight and is denied. The uncontroverted evidence was the ROE five-basis point adjustment would add \$346,000 to Aqua's revenue requirement over three years. However, Aqua's test year allocated flotation cost expense was only \$6,200. This over-recovery is grossly extravagant and is unjustified.

Conclusion

A return on equity is a cost to the Company. Despite the quantitative models with detailed components used by the parties in this case, determination of a return on equity is not made by application of any one simple mathematical formula. The Commission is tasked to thoroughly review and analyze the evidence of the expert witness testimony presented by the parties and exercise its judgment to determine an appropriate return on equity to compensate the Company for this cost. The Commission is uniquely situated, qualified, and required to use its impartial judgment to determine the appropriate return on equity based on the record and applicable law. The Commission is mindful of its constitutional and statutory obligations to both the Company and the customers.

The wide range of ROEs recommended by expert witnesses is not atypical in proceedings before the Commission with respect to the required rate of return.

With respect to the discounted cash flow model, the parties' results were the same initially. Moreover, using an average without excluded data causes the

rebuttal results of witness D'Ascendis to be much closer to both his initial results and those of witness Hinton. This Commission finds and concludes that the results of the discounted cash flow model at 9.03% to 9.28% to be credible, probative, and entitled to substantial weight.

With respect to the risk premium model, Aqua's methodology yields unreasonably high results which would be even higher were a company not excluded from the proxy group; components of Aqua witness D'Ascendis' model utilize future predicted interest rates; and Aqua's recalculation of Public Staff witness Hinton's methodology yielded nearly the same result reached by the Public Staff. Accordingly, the Commission finds the risk premium model suggests an appropriate return on equity range of 9.94% to 9.98%. The Commission finds Public Staff witness Hinton's results and methodology to be entitled to credible, probative, and substantial weight.

The capital asset pricing model also yields unreasonably high results and is based on future predicted interest rates and market forecasts. The Commission concludes that this model is entitled to no weight.

The Commission is unpersuaded by the CEM check for the reasons stated above.

The Commission finds it appropriate to average the results of the discounted cash flow and risk premium models. For the first model, the Commission, in the exercise of its judgment, employs the 9.03% result initially

reached by all witnesses in the case. For the second model, the Commission, in the exercise of its judgment, employs the midpoint of 9.96% (that is, the midpoint between the range of 9.94% to 9.98% reached by the witnesses in this case). The resulting figure is 9.495%. The Commission finds it appropriate, in the exercise of its judgment, to round this to 9.50%. Therefore, the Commission finds and holds that the common equity cost determination models, as evaluated herein, demonstrate an appropriate return on equity for the Company is 9.50%.

The Commission finds the testimony of Public Staff witness Hinton on the WSIP ROE adjustment to be credible, probative, and entitled to substantial weight. The uncontroverted evidence shows the WSIP will reduce regulatory lag, that the forecasting of revenues and expenses will allow better matching of revenues and expenses, and the WSIP can provide for reduced rate case expenses.

The Commission also finds that Moody's gives 32.5% weight to cash flows from operations. Ex. vol. 7, Public Staff WSIP Exhibit 10, 12. The Commission concludes that accelerating the cash flows from capital improvements where revenues are received prior to the plant being placed in service is helpful to Aqua, as revenues for increased expense are accelerated without the regulatory lag and without the need for another rate case.

The Commission rejects witness D'Ascendis' assertion that the WSIP statute "creates an imbalance" that favors consumers and further rejects his assertion that the WSIP does not reduce Aqua's risk profile. Regarding the first

point, the Commission finds, and the parties largely agree, on the benefits of the new law to Aqua. The WSIP will reduce regulatory lag, allow better matching and forecasting of revenues and expenses, and can free management time and avoid rate case expenses (which could be several hundreds of thousands of dollars). The avoidance of rate case expenses will benefit both the consumer and the Company. Regarding the second point, the Commission finds that equity and credit rating agencies view multiyear rate plans, such as the WSIP, as a substantial and favorable development for regulated utilities. Evidence shows rating agencies place great weight on multiyear rate plans, and there was one exhibit showing a regulated utility's ratings outlook was upgraded because its state enacted legislation allowing multiyear rate plans. Another exhibit from Morningstar found a 9% return on equity was appropriate for investors in Essential, the parent of Aqua. The Commission places weight on these independent analyses.

The Commission rejects witness D'Ascendis' assertion that the WSIP should have no impact on ROE because the utility proxy group companies already have operations in jurisdictions with multiyear rate plans, fully forecasted test years, or other favorable statutes.

The Commission has carefully reviewed Aqua witness D'Ascendis' Schedule DWD-6R. The four California companies in his proxy group have fully forecasted future test years. The Garden State Water Company, a subsidiary of American States Water, has a fully forecasted test year. The Commission observes the general rate case order for the Golden State Water Company dated

March 22, 2018, as testified by Public Staff witness Hinton (Tr. vol. 8, 224), approved an 8.9% ROE.

As shown in D'Ascendis' Schedule DWD-6R, American Water Works has public utility operations in 15 states with only five states (or 33.33%) having fully forecasted future test years. This schedule has a line stating "% of customers subject to fully forecasted future test year," but Aqua witness D'Ascendis did not provide any customer numbers or percentages. Therefore, there is no evidence regarding how many of the American Water Works utility systems and customers in the 15 states have rates set using fully forecasted future test years.

Aqua witness D'Ascendis' Schedule DWD-6R shows that Essential has water public utility operations in 11 states, but only Pennsylvania and Virginia (or 18%) have fully forecasted future test years. Again, Aqua witness D'Ascendis did not provide the number or percentage of customers with rates set with a fully forecasted future test year.

Aqua witness D'Ascendis Schedule DWD-6R shows that California Water Service Group has water public utility operations in five states, but only California Water Service Company, located in California (or 20%), has rates set with a fully forecasted future test year. Again, although there is a line item for it, Schedule DWD-6 does not provide the percentage of customers subject to a fully forecasted future test year.

As shown on Schedule DWD-6R, none of the four water public utilities of Middlesex Water Company have rates with an approved ROE with a fully forecasted future test year.

Aqua witness D'Ascendis' Schedule DWD-6R shows that, of the four water utilities of San Jose Water Company, only one – being San Jose Water Company located in California – has a fully forecasted future test year. Again, Aqua witness D'Ascendis did not complete the line-item percent of customers subject to a fully forecasted future test year.

Aqua witness D'Ascendis Schedule DWD-6R shows a total of 41 water utility companies with only ten companies (or 24.4%) with fully forecasted future test years. Aqua witness D'Ascendis, as above, did not provide percentages of customers served by the companies with ROEs approved with fully forecasted test years.

Although Aqua witness D'Ascendis testified that all the companies in his Schedule DWD-6R have approved ROEs with fully forecasted future test years, the Commission rejects Aqua's argument that no reduction in ROE is warranted by North Carolina's new WSIP because the effects of favorable recovery statutes are already "baked in" to the common equity cost determination models.

The Commission rejection of Aqua's contention is based on the fact that many of the listed companies have operations in areas that do not have fully forecasted test years or other favorable recovery statutes. The evidence shows

the financial data for the utility proxy group companies aggregates both regulated and unregulated activities and therefore is not representative of a wholly regulated entity such as Aqua. Similarly, there was evidence that some of the proxy group of utilities had operations in states without multiyear rate plans. The Commission rejection of Aqua's contention is further based on the fact that Aqua witness D'Ascendis was unable to quantify the "baked in" ROE reduction he contends exists.

Additionally, regardless of other states, the WSIP is new to North Carolina. The Commission is generally aware of such policies that mitigate investment risk to an extent beyond North Carolina's historical ratemaking practices. Thus, the fact that these regulatory agencies may or may not have ascribed a reduction in the ROE with multiyear rate plans has no weight in this Commission's decision.

Given the substantial benefit to the Company, it is appropriate that the consumer also benefit from the WSIP. This is especially true in light of the fact that the consumer has incurred the "risk" of future increases and the Company's collection of funds for forecasted future activities. Presently, more benefits fall on the Company's side of the scale rather than the customer's side. The Commission finds persuasive and agrees with witness Hinton that a 20-basis-point reduction in the Company's awarded return on equity is appropriate in order to equalize the benefits.

The Commission's decision is bolstered by the fact that 20 basis points is a number that appropriately shares the WSIP benefits with the Company and the customer. The Commission also notes witness Hinton's informed judgment results from 38 years of testifying before the Commission and working in this field. Witness Hinton's expertise and determination regarding the allocation of benefits is entitled to great weight. His testimony on this point is adopted in full by the Commission. Considering the preponderance of the evidence and honoring its constitutional and statutory obligations to Company and customer alike, the Commission finds a 20-basis-point reduction is a just, fair, reasonable, and appropriate balance.

These factors lead the Commission to find and conclude that a 9.30% rate of return on common equity, if the WSIP is approved, is supported by the substantial weight of the evidence in this proceeding.

Next the Commission evaluates the *Cooper I* and Senate Bill 211 factors.

In this case, all parties had the opportunity to present the Commission with evidence concerning the changing economic conditions as they affect customers. The testimony of witnesses D'Ascendis and Hinton, which the Commission finds is entitled to substantial weight, addresses changing economic conditions.

Witness D'Ascendis testified that economic conditions in North Carolina have improved since a COVID-19-caused declination; that North Carolina's real gross domestic product has grown faster than the national growth; that nominal income in North Carolina has grown slightly faster than the national average; that

North Carolina has the 22nd lowest cost of living index; that there is a strong correlation between the national economy and North Carolina's economy; that the nation is experiencing a growth trend in total personal income, disposable income, personal consumption, wages, and salaries; about the current inflation environment; about current market conditions; and about his expectation that inflation will moderate towards 2%. Witness Hinton testified regarding yields on debt, inflation, and the financial market.

The Commission's review also includes consideration of the evidence presented by the testimony of witnesses at the public hearings held in this matter. The testimony presented at these hearings illustrated a number of relevant facts, including the economic conditions facing North Carolinians. The Commission accepts as credible, probative, and entitled to substantial weight the testimony of the public witnesses.

The Commission keeps all factors affected by current economic conditions in mind in the many subjective decisions it makes in establishing rates, including return on equity. In doing so in the case at hand, the Commission approves the 9.30% 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 decisions to establish the rate of return on equity at 9.30%, the Commission's overall decision results in lower rates to customers in the existing economic environment.

All of the downward adjustments the Commission approves reduce the revenues to be recovered from ratepayers and the return on equity to be paid to investors. Some adjustments reduce the authorized rate of return on investment financed by equity investors. The adjustments 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. Use of a rate of return on equity of 9.30 is only one approved adjustment that reduces ratepayer responsibility and equity investor reward. Many other adjustments reduce 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 or statutory constraints.

For example, to the extent the Commission makes downward adjustments to rate base, disallows expenses, 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 investors' compensation for the provision of service to consumers takes the form of return on investment, downward adjustments to rate base, disallowances of test year expenses or increases to test year revenues, or a 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 constitutional requirements irrespective of economic conditions in which ratepayers find themselves. The Commission reaffirms its explicit compliance with the requirements of *Cooper I*.

Based on the changing economic conditions and their effects on Aqua's customers, the Commission recognizes the financial difficulty that the increase in the Company's rates will create for some of Aqua'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'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'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's customers.

The Commission finds and concludes that the investments by the Company provide significant benefits to Aqua's customers. The Commission concludes that the return on equity approved by the Commission in the proceeding appropriately balances the benefits received by Aqua's customers from Aqua's provision of safe, adequate, and reliable water and wastewater service with the difficulties that some of Aqua's customers will experience in paying Aqua's 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 the adjustments reduce the requested return on equity and benefit consumers' ability to pay their bills in this economic environment.

Based on the general state of the economy and the continuing affordability of water and wastewater utility service, and after weighing and balancing factors affected by the changing economic conditions in making the subject decisions required, the Commission concludes that the allowed rate of return on common equity of 9.30% will not cause undue hardship to customers, even though some will struggle to pay the increased rates resulting from this decision. Any downward

adjustment approved by the Commission from the application requests reduces the revenues to be recovered from ratepayers. Mindful of the changing economic conditions, the Commission finds an ROE of 9.30% to be just, reasonable, fair, appropriate, and warranted.

The Commission must ensure the establishment of rates that are fair to both the customer and Aqua. A 9.30 % ROE is fair to both. It affords Aqua a reasonable rate of return that will allow it to continue to attract capital. A 9.30% ROE is well within the zone of reasonableness for utilities to receive, and there was evidence of utilities awarded a lower ROE by other commissions. Public Staff witness Hinton testified a 9.3% ROE would allow Aqua to qualify for a single “A” bond rating. A 9.30% ROE is also fair to the customer. This ROE includes a specific decrease of 20 basis points to fairly ensure the customer is also benefitted by the WSIP. Further, the awarded ROE is substantially less than requested by the Company. Moreover, this ROE accounts for the economic environment, balances the need for services with the Company’s need for capital, and complies with the mandate that rates be as low as reasonably possible within constitutional limits.

A 9.30% ROE reasonably ensures the continuation of safe and reliable utility services. The Commission recognizes that the Company is committed to spend and invest significant sums on 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. Investments and operations by Aqua provide significant benefits to Aqua’s customers and ensure the continuation of

safe and reliable utility services. As discussed above, a 9.30% ROE allows the company to obtain a single “A” rating and also allows the Company the opportunity to earn millions.

A 9.30% ROE, itself, will not result in a sudden or substantial rate increase to customers annually or over the term of the plan. This is bolstered by two separate and independent grounds. First, this return on equity is less than awarded in Aqua’s rate case last year. Second, the Commission is aware that the dollar impact of a 9.30% ROE necessarily increases as the base against which it is computed also increases. However, any increase would be steady *because* the return on equity is simply a percentage. Put another way, an ROE requirement will not cause “spikes” or substantial rate increases in and of itself.

A 9.30% ROE is representative of the utility’s operations over the plan term. A return on equity is owed over the plan term. Investors cannot simply be compensated at the conclusion of the WSIP. Thus, the ROE is awarded for each of the three WSIP Rate Years.

The Commission finds a 9.30% ROE is in the public interest. The public desires safe, adequate, and reliable investments and services from Aqua at the lowest reasonable cost. As discussed above, the Commission finds and concludes that the return on equity approved by the Commission in this proceeding meets this requirement. It balances the cost of attracting capital to ensure investment and services with the need for the lowest reasonable rates.

When the Commission's decisions are viewed as a whole, including the decision to establish the return of return on common equity at 9.30%, the Commission's overall decision fixing rates strikes the correct balance.

The Commission notes further that its approval of a rate of return on equity at the level of 9.30% (or for that matter, at any level) is not a guarantee the Company will earn a rate of return at that level. Rather, as North Carolina law requires, setting the rate of return on equity at this level merely affords Aqua the opportunity to achieve such a return. The Commission finds and concludes, based on all evidence presented and in light of the applicable jurisprudence, that the rate of return on common equity provided 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.

Summary

For the reasons set forth herein, the Commission approves the following:

WSIP Rate Year	Return on Equity (ROE)	Banding of authorized returns	Corresponding banded range of authorized return on equity
1	9.30%	0 basis points above ROE; 50 basis points below ROE	8.80% - 9.30%
2	9.30%	0 basis points above ROE; 50 basis points below ROE	8.80% - 9.30%
3	9.30%	0 basis points above ROE; 50 basis points below ROE	8.80% - 9.30%

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 65-70

Revenue Requirements

The evidence supporting these findings of fact is contained in the Partial Stipulation, the direct and rebuttal testimonies of Aqua witnesses, the direct testimony and exhibits of Public Staff witnesses, Public Staff Settlement Exhibit 1, and the entire record in this proceeding.

The revenue requirements for Base Year and WSIP Rate Years 1, 2, and 3 reflected in Public Staff Settlement Exhibit 1 include the agreed upon O&M and rate base items, the Public Staff adjustments to the unsettled plant items detailed above, and the 9.3% ROE the Public Staff recommended. The revenue requirement increases are calculated on each rate division by the Public Staff. Additionally, the Public Staff ensured the revenue increases for WSIP Rate Years 2 and 3 are capped to 5% as required by the WSIP statute. Furthermore, Aqua calculated its WSIP Rate Years 2 and 3 revenue percentage increase based on each rate division and limited it to the 5% cap.

The Commission, therefore, finds and concludes that the expenses, rate base, and revenue requirements included in Public Staff Settlement Exhibit 1 for the Base Year and WSIP Rate Years 1, 2, and 3 are just and reasonable. Finally, the Commission finds and concludes it is reasonable to apply the 5% statutory revenue cap for WSIP Rate Years 2 and 3 on the rate division level.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 71-74

Service Improvement Project

The evidence supporting these findings of fact and conclusions is contained in Aqua's Application and corresponding NCUC Form W-1, Item 28; the testimony and exhibits of Aqua witnesses Becker, Packer, Kellett, and Melton; the testimony and exhibits of Public Staff witnesses Feasel, Boswell, Chiu, Hinton, Junis, Sun, and Zhang; the late-filed exhibits filed by Aqua and the Public Staff at the request of the Commission at the expert witness hearing; and the entire record in this proceeding.

Summary of the Testimony of Aqua witness Shannon V. Becker

Aqua witness Becker testified "the Company has and will continue to implement an enterprise resource planning software solution" referred to as its System (sic) Improvement Plan (SIP). Tr. vol. 5, 51. He contended that Aqua believes it is "one of the last larger utility providers that has not implemented an enterprise resource planning solution." Witness Becker testified that Aqua has been on the Lawson financial platform since 1999 and on the Banner customer service platform since approximately 2007. Witness Becker contended that replacement of these two "dated systems is needed and is the primary investment goal of the SIP project." *Id.* The SIP project will create a new business software platform for Aqua. Witness Becker further contended that the Company's "Lawson and Banner systems are reaching the end of their useful life; some of the functions will no longer be supported by the vendors who own and service the software." *Id.*

Witness Becker asserted that “Aqua is investing in the next generation of software to function effectively” and “[f]aced with the imperative to invest in new software systems, Aqua has made the decision to implement SAP, which is a proven, fully integrated system.” *Id.* at 51-52.

Witness Becker contended that “SAP has several characteristics that are inherently attractive,” which include the ability to support a multi-company and multi-utility corporate framework, integration with other commercially sold software, and the ability to utilize custom developed applications. *Id.* at 52. He also contended that “SAP has a significant number of proven implementations at other utilities, shows a commitment to supporting utility-type businesses, and has a track record of improving customer service.” *Id.* Witness Becker asserted that the Company began using the new platform at the beginning of 2022 so that the entire year will be on one platform. He testified that “[s]ignificant testing and training occurred prior to the end of the year and Aqua began using the platform starting January 2022” and this phase of the SIP project includes financial reporting, purchasing, inventory, and time reporting. *Id.*

On cross-examination, Aqua witness Becker testified part of the SIP involves transitioning from Lawson to SAP and Lawson was used for the Sub 526 rate case and is currently still used as a reference. *Id.* at 68. The Public Staff established on cross-examination that witness Becker testified that the Company complied with the requirements of the Commission order issued on October 26, 2020, in Docket No. W-218, Sub 526 (Sub 526 Order). *Id.* The Public Staff further

established that Paragraph 11 of the Sub 526 Order required Aqua to conduct a review of its then current procedures and policies for determining when projects are complete, in service, and booked to plant in service, and file with the Commission the Company's findings. *Id.* at 68-69. Witness Becker confirmed that pursuant to the Commission's Sub 526 Order, the Company filed its findings on January 25, 2021, the Public Staff filed its report on March 2, 2021, and the Commission issued an order on March 30, 2021, which authorized Aqua to incorporate the accounting process to utilize the completed construction, but not classified, or CCNC functionality of its Power Plan, among other things. *Id.* at 69. Witness Becker testified that the process of transitioning to SAP occurred during 2021 and initiation may have occurred sometime in 2020 but he wasn't positive. *Id.* at 70. When asked whether the Company was preparing new accounting procedures in connection with the transition to SAP, he testified, "[t]here was an overhaul of a lot of processes and procedures, so I'm assuming that that was the case, I was not part of those." *Id.* In response to a follow-up question, he testified, "I don't think there was a change in accounting procedures. Processes, I believe so. But as part of the SAP conversion, that was more of a process review, installation, and implementation." *Id.* at 70-71. When asked whether the Public Staff or the Commission was notified of the changes, witness Becker responded, "I did not know that answer." *Id.* at 71.

Summary of the Joint Testimony of Public Staff witnesses Boswell, Feasel, and Chiu (collectively, the Public Staff Accounting Panel)

The Public Staff Accounting Panel testified that the costs in the present case for the SIP project were removed from rate base. They recommended the costs be included in a regulatory asset account to be recovered in a future rate case upon completion of milestones set forth by the Public Staff WSIP Panel, with amortization over a period of 15 years beginning in the month the expenses for the project began. Tr. vol. 7, 177.

On cross-examination, the Public Staff Accounting Panel testified that amortization should begin when costs are initially incurred and, subject to disapproval by the Commission, a regulatory asset typically includes a return on the unamortized balance. *Id.* at 210. They further testified that the recommendation includes a return on the unamortized balance. *Id.*

Summary of the Joint Testimony of Public Staff witnesses Michelle M. Boswell, John R. Hinton, Charles M. Junis, Kuei Fen Sun, and Fenge Zhang (collectively, the Public Staff WSIP Panel)

According to the Public Staff WSIP Panel, on November 13, 2018, Peoples Gas and Aqua America filed a joint application with the Pennsylvania Public Utility Commission (PAPUC) seeking approval for Aqua America to purchase, and gain control of, Peoples Gas. PAPUC Docket A-2018-3006061. Tr. vol. 8, 26. On June 26, 2019, Aqua America, Peoples Gas, and various third parties filed in the same docket a Joint Petition for Approval of Non-Unanimous, Complete Settlement Among Most Parties (PA Settlement). PAPUC4 Docket A-2018-3006061. The PA Settlement contained various commitments from Aqua America, Aqua

Pennsylvania, and the Peoples Companies, including “a cost, benefit, timetable and rate impact analysis for implementation of the Peoples Companies’ SAP system” prior to implementation with further agreement such costs would not be considered a transition cost and thus recoverable through rates. PA Settlement at p. 20. The analysis was required to be submitted to the Office of Consumer Advocate, Office of Small Business Advocate, and PAPUC’s Bureau of Investigation & Enforcement prior to implementation of the SAP system. In supporting documentation, the PA Settlement parties contended that SAP implementation would provide benefits to Aqua Pennsylvania customers, including a fully integrated customer contact center system that would allow customer service representatives immediate access to customer information, additional communications channels, and an online portal. PA Settlement Appendix A at p. 27. On January 16, 2020, the PAPUC issued an Opinion and Order approving the Joint Petition as modified by the PA Settlement. 22 PAPUC Docket A-2018-3006061. *Id.* at 27.

Based on review of Aqua America Board of Director minutes and presentations, including Public Staff WSIP Exhibits 3 and 4,³ the Public Staff discovered details and drivers of the proposed transaction. According to the Public Staff WSIP Panel, Aqua’s SAP implementation is part a larger SIP that is designed to “significantly enhance Customer Service and **meet the settlement goals,**” (emphasis added) presumably the same settlement goals contained in the PA

³ Aqua waived confidentiality of the information presented in Public Staff WSIP Exhibits 3 and 4. *Id.* at 255.

Settlement that had not yet been adopted by the PAPUC. While the Public Staff expected that a project of this magnitude would find financial efficiencies when spread across two companies, in December 2019, the SIP was projected to “require about \$42M more in capital than in the standalone Aqua and Peoples plans.” A subsequent Board presentation on the SIP dated December 7, 2021, projected the same capital spend, but noted the incremental investment was \$15.9M less for Peoples and \$58.2M more for Aqua compared to standalone plans. This exhibit also reiterated the SIP purpose by stating “[w]e embarked on a Service Improvement Project (SIP) to significantly enhance Customer Service and **to meet the settlement goals.**” (Emphasis added). The Public Staff WSIP Panel asserted that Aqua America estimated its total cost across four years would be \$131 million, which equates to roughly \$32 per Aqua America customer annually. The Board presentations also show SIP timelines, including implementation of SAP S4/Hana Customer Relations Management and Billing along with a Customer Portal by the start of 2023 and bills being sent from SAP on January 1, 2024. *Id.* at 28-29. The settlement provided protections and benefits to Pennsylvania customers that were not afforded to North Carolina customers and the purported customer service benefits have yet to materialize despite the request for rate recovery of related costs. *Id.* at 30.

The Public Staff WSIP Panel testified regarding concerns with respect to the costs that will be borne by Aqua customers and delays in the SIP timeline. For example, the anticipated fully integrated customer contact center system that

would allow customer service representatives immediate access to customer information, additional communications channels, and online portal no longer appear to be ready by the start of 2023. *Id.* at 30. The Public Staff WSIP Panel testified that the systems have remaining useful lives, including Banner, which Aqua is still using and will convert to SAP for customer billing by the end of 2025, and Lawson, which “all future product development would be on their cloud product (version 11 and beyond) **after Spring 2026** and that no further software development would be done on any version prior to version 11.” (Emphasis added). *Id.* at 29-30.

The Public Staff WSIP Panel testified that “the Company’s conversion to SAP produced systematic delays in discovery responses throughout the investigation due to the inability to timely closeout capital projects in the SAP system.” *Id.* at 33. They further testified that “[t]he Company is currently operating dual systems that require creation of multiple project numbers and results in significant delay in completion of the end of month closing process in monthly close of the books,” and in some instances, the Company takes as many as forty-four days to close out its books from the prior month. *Id.* at 34.

According to the Public Staff WSIP Panel, the SAP system, the staff members using the SAP system, or some combination of the two are “incapable of timely and accurately tracking project costs, including AFUDC, as [projects] are completed” and this inability has “material implications for meeting the detailed reporting requirements of Commission Rule R1-17A(j) in a timely manner.” *Id.* at

36. The Public Staff WSIP Panel also testified that there were “significant and repeated delays” in the monthly closing process after the Company’s transition to SAP. *Id.* at 37. The Public Staff Panel supported that argument with the table shown below:

Month	2021		2022	
	Close Date	Days	Close Date	Days
Jan	2/12/2021	12	3/16/2022	44
Feb	3/8/2021	8	4/1/2022	32
Mar	4/14/2021	14	4/28/2022	28
Apr	5/7/2021	7	6/2/2022	33
May	6/10/2021	10	6/22/2022	22
Jun	7/8/2021	8	7/24/2022	24
Jul	8/10/2021	10	8/24/2022	24
Aug	9/10/2021	10	9/21/2022	21
Sep	10/7/2021	7	10/20/2022 ⁴	20
Oct	11/5/2021	5		
Nov	12/7/2021	7		
Dec	1/18/2022	18		

Id. at 37-38. The Public Staff WSIP Panel further testified that the failed implementation of SAP “consistently delayed the filing of regulatory reports throughout 2022 and there is no indication [that those issues] will be resolved within a reasonable time.” *Id.* at 38.

⁴ Scheduled completion of the accounting closing process.

According to the Public Staff WSIP Panel, the Company's costly decision to transition to SAP without a clear showing that the transition would result in tangible, meaningful benefits to its customers and the Company's costly decision to file a multi-year rate case application despite known, pervasive problems with its accounting system, and other challenges undermine the Public Staff's confidence in Aqua's historical spend and the proposed WSIP.

The Public Staff WSIP Panel noted that the WSIP requires an annual earnings review, which requires that the Company be capable of accurately and timely closing out its books. Additionally, the Public Staff WSIP Panel testified that they have seen "no evidence that the SAP implementation and associated problems will be resolved in the foreseeable future." *Id.* The Public Staff WSIP Panel contended that adopting the Company's proposed WSIP without resolution of the accounting system issues will materially impact the ability of the Commission and Public Staff to undertake the earnings review, and the Public Staff wants to avoid a situation where a thorough earnings review is undermined by the Company's inability to provide accurate information within the required timeframe. *Id.*

According to the Public Staff WSIP Panel, the SIP and related projects, which include purchase and implementation of new SAP software and applications, encompass plant additions since the Sub 526 Rate Case through the duration of the Rate Years. *Id.* at 64. In summary, the Public Staff's concerns include: the transition from Lawson and Banner has been accelerated due, at least

in part, to the acquisition of Peoples Gas; Lawson has remaining useful life; the transition from Banner to SAP for customer billing has been delayed from the start of 2024 to the end of 2025; and there are no direct savings resulting from the projects. Based on the scope of work listed as part of the SIP or, either incorporated or avoided due to the SIP, the Public Staff recommended a total of \$7,095,415 since the last rate case through August 31, 2022, be removed from plant in service. In addition, the Public Staff recommended removal of estimated capital investment totaling \$3,488,758 for the first eight months of projected 2022 and \$3,791,010 during the Rate Years. *Id.* at 65.

On cross-examination, Public Staff witness Junis testified that SAP has not been proven to be useful in this rate case. He further testified that the Company chose when to file this rate case, including to use a test year utilizing the previous Lawson system, and anticipated an update utilizing a completely different system, SAP. According to witness Junis, the Company has represented, in testimony and responses to discovery, that it knew there would be problems and continue to correct the problems. *Id.* at 120. Witness Junis asserted that there was not open transparency from the very beginning of the general rate case; for example, in January 2022, Aqua deferred closing of blanket projects and in June 2022, prior to filing its application, Aqua deferred closing larger utility plant in service projects where costs were booked in both Lawson and SAP and the Company performed manual accounting entries. *Id.* at 124-125. Public Staff witness Boswell testified that, “[h]istorically, whenever there is change in IT processes, as we all are aware,

there can be some hiccups along the way,” however, “[t]he issues in this case is it appears that there weren't just some and it wasn't at the initial stage, but that we're still having them today.” *Id.* at 126. When asked if the transition issue that Aqua has had is more severe or unique to Aqua compared to other companies that have switched to SAP, witness Boswell testified that Duke Energy Carolinas and Duke Energy Progress switched over to SAP and did not experience the same issues as Aqua. *Id.*

On redirect, Public Staff Boswell, Hinton, Junis, Sun, & Zhang Redirect Ex. Nos. 1 and 2 were introduced and show communications from Aqua regarding the Company's inability to provide timely and detailed updates on projects throughout 2022 and data request responses from the Company disclosing the deferral of project capitalization.

On examination by Commissioner Mitchell, witness Junis testified that the SIP project would result in savings of \$16 million from Peoples' previous plan, and it would be a \$58 million increase for Aqua. *Id.* at 247. Witness Junis further testified in December of 2019, the board of directors, prior to acquisition, made a joint decision that resulted in a plan where Aqua would pay more and Peoples would pay less than previously planned separately. *Id.*

On examination by Commissioner Duffley, witness Junis testified that it is the Public Staff's understanding from Aqua's data request response that Lawson would be supported through spring of 2026. *Id.* at 255.

On examination by Commissioner Clodfelter pertaining to whether deferring all the expenditures from the SIP to a regulatory asset account would provide sufficient protection, witness Boswell testified that the Public Staff believes it would be, even without the regulatory conditions. Tr. vol. 9, 78.

Summary of the Joint Rebuttal Testimony of Aqua witnesses Shannon V. Becker, William Packer, Whitney Kellett, and Michael Melton (collectively, the Aqua WSIP Panel)

The Aqua WSIP Panel testified that after SAP went live on January 1, 2022, several transition items occurred that were related to recording and closing of capital activity on Aqua's books and, as a result, the capitalization effort to record capital project cost activity in Utility Plant in Service (UPIS) in 2022 was temporarily, but purposely, deferred to address several conversion issues and ensure the eventual proper recording of the assets; however, this deferral created a gap between what was happening on the ground in real time versus what was being recorded on Aqua's books. Aqua's WSIP Panel testified its field operations and engineering teams continued with their utility capital project work and assets were continuing to be placed in-service and in use for the benefit of its customers, but they were not yet being fully recorded on the Company's books. Additionally, the witnesses testified this part of the SAP implementation included new processes for their field workers, supervisors, and managers. According to the Aqua WSIP Panel, for a period, recurring blanket closings were postponed so the Company could understand the issue better and make necessary corrections and capitalization of specific projects continued on a more sporadic basis as the

Company transitioned to the new system and corrections were made. The Company waited to capitalize these projects until necessary corrections were in place and then made corresponding manual entries to ensure AFUDC and depreciation were properly accounted for. The Aqua WSIP Panel testified that “[t]his issue was unexpected but responsibly identified and resolved.” Tr. vol. 11, 82. On October 6, 2022 (over nine months after switching to SAP and three months after filing the rate case application), the Company shared information related to this issue with Public Staff witnesses Feasel, Boswell, and Chiu on a virtual call and explained the temporary process in place to address the issue. According to the Aqua WSIP Panel, the Company explained that some programming modifications were in process to address the issues with timely capitalization of projects and that the Company was experiencing an anomaly period of catch up due to the implementation of the new financial platform and new version of Power Plan. The Company reinforced with the Public Staff that Power Plan continues to recalculate the AFUDC on a project back to the in-service date; this is a standard feature within Power Plan and it has stayed the same. The Company further explained that depreciation adjustments would be recorded to account for the appropriate in-service date. The Aqua WSIP Panel contended that this one element of SAP has seemed to create a large amount of skepticism on the part of Public Staff and is a problem that is being dealt with and has and continues to be remedied; but it should not be the catalyst for disallowance of SAP or the WSIP, nor should it prompt a management audit of the Company. *Id.* at 83.

The Aqua WSIP Panel testified that “[m]ost necessary corrections, along with enhanced training efforts, were completed by late summer and Aqua began to review projects in-service that were sitting in its Construction Work In Progress (CWIP) accounts pending capitalization to calculate the appropriate catch-up depreciation and any adjusting entries to correct AFUDC,” while “[s]ome of this work is still underway and refinements continue to be made.” *Id.* at 83-84. According to the Aqua WSIP Panel, in the last few months of 2022, Aqua started “catching-up” by capitalizing assets that had been placed in service in the field during prior months and this, along with other market conditions as noted in rebuttal below, are the primary reasons the Public Staff notes that the Company only unitized (i.e., capitalized or recorded the project as an asset on Aqua’s books) \$12 million of utility plant in service (UPIS) for the period January through August 31, 2022, compared to the \$46 million that Aqua’s application estimated. The Aqua WSIP Panel contended that Aqua’s capitalization progress is evidenced by its \$32.7 million 2022 total increase in UPIS per the end of closing the books up through November 30, 2022. *Id.* at 84.

The Aqua WSIP Panel testified that it attempted to provide a reconciliation to the Form W-1, Item 28; however, the effort was, at least during this timeframe, complicated by the integration of SAP, because the Form W-1 Item 28 was built using the prior Lawson accounting system, related processes and nomenclature, which SAP replaced on January 1, 2022, and it included over 9,000 lines of detailed information. *Id.* at 87. They further testified that because of the transition

to SAP on January 1, 2022, the updates included in response to Public Staff Data Request 6, Question 6, were in a different format, including different coding and project naming conventions. *Id.* at 88. The Aqua WSIP Panel asserted that the “most important point Aqua seeks to make here is that the integration issues with SAP are being managed and worked through, as it was always known they would be,” and “[t]his is an unfortunate issue of timing, the effect of which is magnified by the spotlight on the new arena in which we litigate this rate case of first impression.” *Id.* at 89.

According to the Aqua WSIP Panel, during the conversion to the SAP financial system, the Company was unable to accommodate status updates to the projects listed in the Item 28 requested on the Public Staff’s preferred schedule due to the lengthier close process during the transition to SAP. The Aqua WSIP Panel contended that, since SAP is a far more sophisticated, comprehensive, and robust financial system than Lawson, the month-end close process takes longer to process, at least at this time. *Id.* at 117.

With respect to the acquisition of Peoples Gas, the Aqua WSIP Panel asserts that the Company filed for approval of the Peoples Gas acquisition on December 18, 2018, and closed on the transaction on March 16, 2020, almost three years ago. *Id.* at 125. Aqua Pennsylvania included direct testimony in the Peoples acquisition proceeding before the PPUC that it would be moving to an ERP platform with the acquisition of Peoples Gas and taking advantage of acquiring a utility that already had this type of platform (e.g., SAP, Oracle), but the

decision to implement SAP was not something that Aqua Pennsylvania was forced into doing to reach a settlement agreement; rather, the parties did agree it was a benefit of the transaction. *Id.* at 127-128. Regarding the heading of internal Aqua presentation materials that describe the purpose of SAP as to “significantly enhance customer service and meet the settlement goals,” the Aqua WSIP Panel surmised that the “Public Staff is taking this reference completely out of context.” *Id.* at 128. According to the Aqua WSIP Panel, without SIP, Aqua America would have had to implement SAP from scratch and would have spent significantly more than \$158 million over six years and Aqua did not prepare an alternate five- or six-year capital IT plan using the assumption it would have to implement a technology platform from scratch. *Id.* at 130. The Aqua WSIP Panel asserted that the total cost of SIP to Aqua America is \$110,694,235 over six years, or \$18/year for each Aqua America customer (simple average and not the rate impact to customers). *Id.* at 130-131.

The Aqua WSIP Panel testified that prior to the Peoples Gas acquisition, Aqua was proactively and thoughtfully discussing the need to transition from Lawson and Banner to an enterprise resource platform such as SAP or Oracle and because Peoples Gas was already using SAP, Aqua was able to execute its transition off Lawson faster than if Aqua had to build a new SAP system from scratch. They contended that it would be very risky to stay on a financial platform until the last possible date of vendor support, because software vendors stop providing any software updates (including security patches) years before they

sunset the software, meaning Aqua would not be able to get new functionality. If Aqua had an issue with the software, the vendor would stop training new employees on older software so it would be very difficult to get support. Additionally, the Panel testified that Company was on version 10, and, although there was a version 11, it was only offered via the cloud and the Company would have had to do an entirely new implementation of Lawson to use it. *Id.* at 131.

The Aqua WSIP Panel testified that the Company disagrees with the Public Staff's proposed adjustment related to Aqua's SIP and, in particular, SAP project costs, because SAP is Aqua's financial platform and it is used and useful. Aqua disagreed with the Public Staff's position to remove it from rate base "because that proposal is unreasonable and unfounded." The Aqua WSIP Panel contended that "SAP is in service, functioning, and a necessary component of the Company's operation, and is used and useful." *Id.* at 157. The Aqua WSIP Panel concluded that "the SIP project, including its major component of SAP, should not be removed; nor is it appropriate to create a regulatory asset," because "the move to SAP is necessary, reasonable, currently used and useful, and will benefit customers over the long term." They further concluded that: "the Company is using SAP as is its financial platform," "SAP is in service, working, and is used and useful," and "[t]he Company will be embarking on the customer service upgrade." *Id.* at 158.

On cross-examination, Aqua witness Kellett testified that over 10,000 hours of training has been conducted in preparation for the SAP conversion, all 1,550

employees of the water and wastewater subsidiary companies were trained to prepare for SAP, including all Aqua North Carolina employees, and the official training period was from September to December of 2021. *Id.* at 184-185. When asked about the cost of training, witness Kellett stated that, “[t]he training costs were packaged as part of the overall, what we call, organizational change management costs, which include stakeholder engagement, communication. Preparing for our conversion includes training, it includes, you know, job aids, materials. So I do not have a breakdown of the actual in-person and WebEx training portion, because it was part of the overall change management cost.” *Id.* at 186. When asked about savings the Company contended could be achieved by having Peoples Gas staff assist in training, witness Kellett testified “I would say we saved time and cost from having to hire additional trainers and additional subject matter experts, because we were able to leverage the employees in our gas subsidiary to help,” and in response to a subsequent question acknowledged that the Company also hired “external vendors to help with our technical implementation as well as organizational change management.” *Id.* at 186-187.

On cross-examination, Aqua witness Packer testified that the issue “identified in January 2022 specifically dealt with functionality of our Enterprise asset management system of SAP” and “was corrected in June and effective for plant additions and closing starting in July of 2022.” *Id.* at 188. He further testified that the second issue that was identified in June 2022 dealt with overhead allocation and, as of January 3, 2023, the issues had been resolved. *Id.* at 189.

On redirect examination, Aqua witness Kellett laid out a timeline starting in October 2018 when Aqua America announced the Peoples Gas acquisition. Aqua America brought in a firm in 2018 and had them prepare an assessment of what it would take to go to an ERP system for both financial and customer information. She testified that no presumptions were made but they started the planning process at the beginning of 2019 and sent out a request for information (RFI). The RFI informed the business case presented to the Board of Directors in December of 2019. After Board approval, Aqua America issued an official request for proposals (RFP) in the first six months of 2020. In 2020, Aqua America closed the acquisition of Peoples Gas in March, signed a contract with a SAP vendor in June, and started the SIP project in September. *Id.* at 202-205.

Aqua witness Kellett testified that the service improvement program was budgeted for \$158 million over five years. She further testified that to build SAP without leveraging the experience and staff of Peoples Gas that the project would cost approximately \$220 million, or an increase of 40 percent. *Id.* at 201-202.

Aqua witness Kellett testified to issues with the Lawson accounting system and the Banner customer information systems. She described Lawson as a nice product but stated that it was not sized, scalable, and functional to meet Aqua's needs anymore. She testified that only five to six utilities still use Banner, which was written for and is used by universities across the country and not intended for utilities. *Id.* at 207-208.

On examination by Commissioner Brown-Bland, Aqua witness Kellett testified that SIP refers to service improvement project, which is a multiyear technology roadmap that has 29 different projects and SAP in one of those. *Id.* at 219-220. When asked about benefits, witness Kellett testified that: (1) in November of 2021, a call back feature was implemented; (2) a digital time-keeping system for employees; and (3) modifications to IVR options. *Id.* at 221-223. Speaking from the corporate level, witness Kellett testified “our numbers were 100 percent accurate at go-live, in terms of how much money do we have in our cash accounts; what do we have in each of our settlement and clearing accounts; what our trial balance is.” *Id.* at 229.

On examination by Commissioner Hughes, Aqua witness Kellett testified that “the total cost of all projects for the Service Improvement Project for North Carolina, as we defined in the budget, is approximately \$10,848,035, which represents roughly 9.8 percent, right, of the overall project for the program.” Tr. vol. 12, 10. To date, she stated Aqua has spent \$7,832,121 for SAP phase one, as well as our new payroll system, our new timekeeping system, and some of the other projects, and roughly \$3,000,000 will be spent on phase two. *Id.* at 10-11.

Based on the Updated Form W-1, Item 28, filed on March 31, 2023, Aqua seeks rate recovery of SIP and related projects costs as follows: (1) \$7,095,415 since the last rate case through August 31, 2022; (2) \$2,708,584 for the period of September through December of 2022; (3) \$2,346,850 for 2023 in Rate Year 1; (4) \$766,250 for Rate Year 2; and (5) \$505,550 for Rate Year 3.

Discussion and Conclusions

Based upon a careful consideration of the entire record in this proceeding, the Commission reaches the following conclusions discussed below regarding the Service Improvement Project.

The Commission is tasked with determining whether capital investment made by the utility was reasonably and prudently incurred based on the information available at the time the investment was made and whether that capital investment was used and useful to the benefit of customers. The Commission gives considerable weight to the Public Staff and Aqua WSIP panels of witnesses; however, Aqua has not adequately resolved the concerns raised by the Public Staff regarding the decision-making process, including drivers and timelines, to replace Lawson and Banner and the usefulness of SAP during the pendency of the present rate case and in the immediacy following this Order. Public Staff WSIP Exhibits 3 and 4 clearly show savings for Peoples Gas and increased costs for Aqua when compared to the companies' prior plans.

The Commission finds the testimony and evidence provided by the Public Staff persuasive and compelling in providing examples of how the Company's performance during the rate case has been fraught with accounting delays and inaccurate and unreliable data due to Aqua's challenges while integrating and transitioning to the new SAP accounting system during this rate case. The Commission oversees a regulatory process dependent on timely and accurate and

reliable data, and Aqua's implementation of the new accounting system has significantly hindered and complicated its first proposed WSIP.

In light of the foregoing, the Commission concludes the SIP and related projects completed through August 31, 2022, are used but not useful for the purposes of ratemaking. Further, the Commission concludes that it is not appropriate to allow Aqua rate recovery of its SIP and related projects costs included in the test year and proposed in WSIP Rate Years 1-3 in this rate proceeding. The Commission further concludes that it is reasonable and appropriate for the Company to include the costs in a regulatory asset account to be recovered in a future rate case, with amortization beginning in the month the expenses for the project are incurred and amortized over a period of 15 years.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 75-81

PFOS and PFOA Projects

The evidence supporting these findings of fact and conclusions is contained in the Aqua's Application and corresponding NCUC Form W-1, Item 28; the testimony and exhibits of Aqua NC witnesses Berger, Becker, Packer, Kellett, and Melton; the testimony and exhibits of Public Staff witnesses Houser, Feasel, Boswell, Hinton, Junis, Sun, and Zhang; the late-filed exhibits filed by Aqua NC and the Public Staff at the request of the Commission at the expert witness hearing; and the entire record in this proceeding.

Report on Customer Comments

In its Report on Customer Comments from Virtual Hearing Held on October 20, 2022, filed on November 9, 2022 (Virtual Hearing Report), Aqua addressed concerns raised by customers and provided context with regards to PFAS. PFAS is currently considered an unregulated contaminant and is not regulated by USEPA or NCDEQ. Until USEPA promulgates a standard, PFAS monitoring is not required in North Carolina unless the system has been identified to participate in the Unregulated Contaminant Monitoring Rule (UCMR) scheduled for 2023 through 2025 or the system previously participated in UCMR 3 between 2013 and 2015. Aqua is voluntarily monitoring its systems based on occurrence and environmental factors. Aqua stated that it is currently in litigation with the manufacturers of PFAS on behalf of its customers, to mitigate financial harm that may result from future treatment requirements to address these contaminants.

In the Virtual Hearing Report, Aqua also addressed the health advisory limits (HALs) of 20 parts per quadrillion (ppq) for PFOS and 4 ppq for PFOA issued by the USEPA in June 2022. To give perspective on the magnitude of ppq, Aqua stated that a ppq is the equivalent of one second in 31.7 million years, and currently there are no analytical devices that can measure to ppq. HALs are guidance documents prepared by USEPA to inform customers about risk and risk mitigation. A HAL is not a regulated standard that public water systems are required to comply with. The USEPA is anticipated to release a draft Maximum Contaminant Level (MCL) in December 2022 for certain PFAS compounds. Aqua stated on page 23

of the Virtual Hearing Report that, “[a]ttempting to filter a non-regulated contaminant to a specific level in advance of the establishment of an MCL for that contaminant may result in imprudent spending on unnecessary heightened filtration or filtration that does not meet the final standards to which utilities will be required to eventually adhere.” Aqua indicated that it will comply and provide treatment for any well that exceeds an established regulatory standard. In 2020, Aqua established an internal goal for PFOS, PFOA, and pFNA of 13 ppt based on what was one of the lowest state standards adopted at that time. Aqua has capital investments planned to address the systems identified through its water quality monitoring program that exceeded this internal limit.

In its Report on Customer Comments from Public Hearings in Wilmington on October 26, 2022, and from Gastonia on October 27, 2022, filed on November 15, 2022 (Wilmington and Gastonia Hearings Report), Aqua addressed concerns raised by customers and provided context with regards to PFAS similar to the Virtual Hearing Report. While MCLs do not currently exist for PFAS contaminants and Aqua anticipates the USEPA will release a proposed MCL for PFOS and PFOA by year-end 2022, Aqua asserted on page six of the Wilmington and Gastonia Hearings Report that, “there could be a lengthy process to finalize this MCL before it becomes an enforceable standard.” On page 12, Aqua stated PFAS contaminants are present throughout the environment from a wide range of sources, including the air, fuel, pens, makeup, hair products, plumber’s tape, food

packaging, etc. and sample results can easily be influenced by these factors due to the very low-level quantification required in the sampling methods.

Summary of the Pre-filed Testimony of Public Staff witness Evan M. Houser

Public Staff witness Houser testified that PFOS and PFOA are chemical compounds that are part of the larger PFAS family of compounds. In 2020, Aqua's parent company, Essential, adopted a 13 ppt limit for PFOS and PFOA to align with the New Jersey MCL and Pennsylvania's proposed MCL. New Jersey's Department of Environmental Protection set its MCLs for PFOS and PFOA to 13 ppt and 14 ppt, respectively. Pennsylvania's Environmental Quality Board adopted a final limit of 18 ppt for PFOS and 14 ppt for PFOA on October 12, 2022. Essential has subsidiary companies in both New Jersey and Pennsylvania. The Company plans to complete approximately ten PFOS/PFOA filtration projects in North Carolina, with estimated in-service dates between October 2022 and 2025. He noted that the filters the Company plans to install aim to achieve filtration to or below 10 ppt for PFOS and PFOA. Tr. vol. 6, 344.

During the evidentiary hearing, on January 10, 2023, witness Houser testified that the USEPA and DEQ had not issued a maximum contaminant level on PFAS compounds in drinking water, and that the current Interim USEPA health advisories for PFOS and PFOA were 0.02 ppt and 0.004 ppt, respectively. According to witness Houser, the USEPA noted in its June 2022 webinar that the minimum reporting level (MRL) is four ppt for both substances. The USEPA issued

a proposal to designate PFOS and PFOA as hazardous substances under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or “Superfund,” on August 26, 2022. Page 16 of the USEPA’s proposed rule dated August 26, 2022, states:

The EPA Science Advisory Board is reviewing EPA’s analyses, and therefore, the interim health advisories are subject to change. However, EPA does not anticipate changes that will result in health advisory levels that are greater than the minimum reporting levels. The interim health advisories are intended to provide information to states and public water systems until the PFAS National Primary Drinking Water Regulation takes effect.

Id. at 345-346. Based on the excerpt above, Public Staff witness Houser stated, “it is likely that the final rule on PFOS and PFOA limits for drinking water will set limits near the current MRL of four ppt, which is less than one-third of the internal limit established by Essential.” *Id.* at 346.

The USEPA states in its PFAS Strategic Roadmap that it plans to issue a final rule for PFOS and PFOA by Fall of 2023. The most recent primary drinking water rule update by the USEPA was the Lead and Copper Rule Revisions, which was initially published on January 15, 2021, with an effective date of March 16, 2021, and a compliance date of January 16, 2024. Using this timeframe as a reference, Public Staff witness Houser stated that, “the EPA’s final rule on PFOS and PFOA compound may not have a compliance date until Fall of 2026, assuming it is released on time.” *Id.*

Public Staff witness Houser testified that the Public Staff understands the public’s concerns regarding PFOS and PFOA in drinking water; however, the

Public Staff does not believe the Company's approach to addressing these substances is reasonable or prudent at this time, given that neither the USEPA nor DEQ has issued final regulations, and Aqua's planned projects may not achieve the limits ultimately set by those agencies. *Id.* at 346-347.

When asked by Commissioner Clodfelter whether there were some "no regret" actions Aqua could take before MCLs are adopted in order to act quickly and cost-effectively, Public Staff witness Houser testified that, in North Carolina, Aqua's five largest systems account for 33% of their customers, with a median number of 48 customers per system. He noted that this meant Aqua has 369 water systems with 48 or fewer customers. He further noted that most of Aqua's systems rely on groundwater. *Id.* at 372-375. Witness Houser testified that Aqua will need to develop a holistic approach to compliance with the future MCL or MCGL including a combination of treatment, interconnections, and decommissioning. He noted that this cannot be done until the Company knows how many systems need treatment based on the final regulation and how many customers are impacted. *Id.* at 375-376. In response to further questions by Commissioner Clodfelter, witness Houser clarified that it would be prudent for Aqua to characterize the scope and extent of the issue before a final regulation is in place. *Id.* at 376-377.

In response to a question from Commissioner Brown-Bland about exposure to PFOS and PFOA, witness Houser testified that, for water, USEPA typically uses a relative source contribution of 20% and some industry presentations have stated

25% of the intake of PFAS comes from water and the other 75% from diet. *Id.* at 388-389.

Summary of the Joint Testimony of Public Staff witnesses Michelle M. Boswell, John R. Hinton, Charles M. Junis, Kuei Fen Sun, and Fenge Zhang (collectively, the Public Staff WSIP Panel)

The Public Staff WSIP Panel testified that the Public Staff recommends the Commission, at minimum, reduce the planned capital investment allowed for rate recovery through Aqua's proposed WSIP as detailed in the Company's W-1, Item 28, including the removal of PFOS/PFOA filtration projects. Tr. vol. 8, 63. The Public Staff WSIP Panel referenced Public Staff witness Houser's testimony that, while the Public Staff understands the public's concerns regarding PFOS and PFOA in drinking water, the Public Staff does not believe Aqua's current plan for addressing these substances is reasonable or prudent because neither the USEPA nor DEQ has issued proposed or final regulations, and Aqua's planned projects may not achieve the limits ultimately set by those agencies. The Public Staff recommended removal of estimated capital investment totaling \$7,810,000 during the Rate Years.⁵ *Id.* at 65-66.

When asked by Commissioner Clodfelter regarding whether there is a difference between the situation Aqua is facing with respect to PFAS chemicals and the situation that confronted electric utilities operating coal plants during the

⁵ Based on Aqua's modification of the projects for the bridge period of September through December of 2022 and parts of Rate Year 1 (2023) proposed in its W-1, Item 28 of the WSIP, the Public Staff recommends removal of estimated capital investment for PFOS and PFOA projects in the amount of \$353,928 in 2022, \$2,150,000 in 2023, \$2,900,000 in 2024, and \$2,300,000 in 2025.

period prior to the adoption of the CCR Rule, Public Staff witness Junis indicated he believed they were different. Tr. vol. 9, 60. When asked how so, Public Staff witness Junis testified the regulation of coal ash was complex and there were several issues that delayed regulation, including changes in federal government administrations. In the case of PFAS, there has been assessment by USEPA with one UCMR to collect data on PFOS/PFOA and another UCMR that expands the collection of data to 29 variations of PFAS. *Id.* at 61. The USEPA is progressing through a regulatory process, and previously indicated that a proposed rule would be issued in December of 2022 and the standard would be finalized at the end of 2023. Based on the most recent guidance from the USEPA issued in November of 2022, the regulatory process is normally the USEPA establishes a maximum contaminant level goal, MCLG, which is a nonenforceable level where there is no known or adverse health effects to occur. Public Staff witness Junis testified that the MCLG does not account for limitations of detection or treatment technology effectiveness and that the establishment of an enforceable standard, that is, the MCL, takes into consideration feasibility, costs, and benefits. *Id.* at 61-62. Public Staff witness Junis testified that, if it is not feasible to determine the level of an enforceable standard, a treatment technique would be applied to some class of systems, with exceptions for treatment techniques sometimes being made for small systems. The USEPA must develop a health risk reduction and cost analysis that informs the determination as to whether the benefits of the proposed MCL justify the costs. Public Staff witness Junis concluded there is an entire process

that must happen to establish an MCL for compliance purposes, and the Company is proposing to act before this process is completed. *Id.* at 62-63.

Public Staff witness Junis noted in further response to Commissioner Clodfelter's question that, in response to discovery and each of the 10 line items or buckets of costs that address PFOS/PFOA in the W-1, Item 28, Aqua referenced the corporate goal of 13 ppt based on a New Jersey standard. When asked in discovery for the risk reduction of going from the levels Aqua is detecting to below 13 ppt, Aqua directed the Public Staff to the USEPA, which has not completed its regulatory process. Public Staff witness Junis concluded the proposed projects have not been justified by a cost-benefit analysis. *Id.* at 63-64.

Public Staff witness Junis testified there needs to be a holistic approach to PFOS and PFOA, but it is generally unknown how expansive the problem is, what the solutions are, and what is the risk reduction. *Id.* at 65-67. He referenced Aqua witness Berger's representation that PFOS and/or PFOA exceeds the corporate standard of 13 ppt but were detectable in over 300 entry points. *Id.* at 66. In response to discovery and the W-1, Item 28, Aqua proposed 10 line items to address 30 entry points mitigated with treatment to a corporate standard of 13 ppt. *Id.* at 65. However, in her prefiled rebuttal testimony, Aqua witness Berger referenced treatment or other alternatives such as purchased water, deactivation, or drilling a new well, and Aqua has not provided any detailed information regarding how it evaluated these alternatives or a cost-benefit analysis to support its plan. *Id.* at 65-66. Public Staff witness Junis described the Brookwood service

area as an example of the need for a holistic approach if a substantial number of the wells have concerning water quality. Witness Junis noted a majority of Aqua's Brookwood system is served by wells and is located to the south of the City of Fayetteville. He further noted that another portion of Brookwood is served by Aqua with purchased water from the City through a water main that runs through the portion of Brookwood supplied by wells. Witness Junis suggested purchased water or other alternatives to treatment of the wells needs to be analyzed for Brookwood and he raised concerns about Aqua determining treatment for individual entry points in a vacuum instead of performing a holistic evaluation after determining how many and which systems are impacted. *Id.* at 65-67. Witness Junis further testified that "[t]here are a multitude of options that we have not seen an analysis from the Company to support immediate action" and "[t]hat does not mean that they cannot start planning." *Id.* at 67. With continued improvements in testing technology, concentrations are being detected at lower and lower levels, but there is not a proper risk assessment to quantify the incremental benefits of varying levels of treatment effectiveness. *Id.*

With regards to funding projects, Public Staff witness Junis testified that prospective cost recovery in rates should be denied because of the unknowns he described and because there is no true-up mechanism in the WSIP to prevent Aqua from receiving federal or state funding for the same projects and thereby being compensated twice. Witness Junis strongly supported planning and seeking funding. He noted that the Division of Water Infrastructure Funding Program has

not incorporated federal IIJA funding yet and anticipated implementation as part of the spring 2023 application period, but that does not prevent Aqua from seeking funds. *Id.* at 68. Witness Junis also testified that both Carolina Water Service of North Carolina, Inc. (CWSNC), and Aqua, as part of the rulemaking proceeding, provided comments that the unplanned emergencies clause of the WSIP statute could be utilized to address PFOS and PFOA if a standard is established. He contended that this is another reason it is not necessary to approve prospective cost recovery. *Id.* at 68-69.

Returning to Commissioner Clodfelter’s question regarding the difference between “the situation facing the electric utilities prior to the adoption of the final CCR rule” and “PFAS chemicals,” Public Staff witness Junis affirmed that the electric industry knew the characteristics of the ponds because groundwater monitoring data existed, the preventive and corrective measures that could have been implemented, and the costs associated with those measures. In the water industry, there are still many unknowns regarding PFOS and PFOA. *Id.* at 69-70. Witness Junis noted there are a number of questions related to scope – the number of entry points, treatment goal, quantification of risk reduction, and cost-benefit analysis – that remain unanswered and are an impediment to a holistic and cost-effective approach. *Id.* at 71. Public Staff witness Junis concluded that Aqua’s 10 buckets (or projects) related to PFOS and PFOA in the proposed WSIP lack the level of detail necessary to make a determination that they are “reasonably known and measurable” as required by the statute. *Id.* at 73.

Summary of the Rebuttal Testimony of Aqua witness Amanda A. Berger

Aqua witness Berger prefiled rebuttal testimony on December 19, 2022, at which time USEPA and NCDEQ had not established a MCL – or enforceable standard - for PFAS compounds in drinking water. USEPA issued a PFAS Strategic Roadmap on October 18, 2021. Tr. vol. 10, 32. The document outlined USEPA’s strategy to address PFAS compounds by developing final toxicity assessments, establishing national primary drinking water regulations, or MCLs, for PFOA and PFOS, designating certain PFAS substance as hazardous under Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), also commonly known as “Superfund” regulation, and finalizing risk assessment for PFOA and PFOS in wastewater biosolids. USEPA has also stated it will release a pre-guidance document by year-end 2022 with the proposed rule to establish an enforceable drinking water limit in early 2023. Aqua witness Berger testified that, “the proposed MCL is anticipated by state primacy agencies and the industry to be the existing Minimum Reporting Level (MRL) - or lowest level detected with 95% confidence at 75% of laboratories - for PFOS and PFOA of 4 parts per trillion (ppt).” *Id.* at 33. In June 2022, USEPA also lowered the Health Advisory Limit (HAL) for PFOS and PFOA from a combined 70 ppt to 20 ppq for PFOS and 4 ppq for PFOA. Aqua witness Berger opined that, “While a HAL is not an enforceable standard by USEPA or NCDEQ, the average consumer interprets this value to mean anything greater than the HAL could be a health concern.” *Id.*

Aqua witness Berger testified the Bipartisan Infrastructure Law (BIL) signed by President Biden in November 2021 will provide USEPA with \$4 billion over five years through the Drinking Water State Revolving Fund (DWSRF) and \$5 billion over five years for small or disadvantaged communities. USEPA has stated it is currently working to assist states in the implementation of their programs.

Aqua witness Berger testified that Aqua performed a survey of over 1,300 entry points between 2019 and 2020 and placed all entry points that exceeded 13 ppt for PFOS, PFOA, and/or PFNA on quarterly monitoring, similar to regulation under the Safe Drinking Water Act, and a Running Annual Average (RAA) was calculated for these sites. Essential, Aqua's parent company, adopted a 13 ppt limit in 2020 to align with the New Jersey MCL and Center for Disease Control (CCDC) minimal risk level for children at the time. Entry points that demonstrated a RAA greater than 13 ppt were identified in the Capital Improvement Plan (CIP) for filtration within five years. Aqua witness Berger further testified that Aqua has identified 30 entry points that have consistently exceeded Essential's adopted limit of 13 ppt and prioritized those sites for treatment or other alternatives to be in service by year-end 2025. She also testified that these sites are the highest priority and will likely require filtration after USEPA establishes an MCL, which she expected to be well below 13 ppt. *Id.* at 34.

Aqua witness Berger contended that Public Staff witness Houser's testimony inaccurately stated that Aqua plans to complete ten PFOS/PFOA filtration projects with estimated in-service dates between October 2022 and

2025.⁶ She asserted that Aqua has identified 30 entry points that exceed the Essential standard of 13 ppt and that each of these entry points has been prioritized for treatment or other alternatives, such as purchase water, inactivation, or possibly drilling a new well, through year end 2025. *Id.* at 36-37. Aqua witness Berger also took issue with Public Staff witness Houser's testimony that the Essential standard of 13 ppt was anticipated to be three times the proposed MCL, and asserted that he did not provide any commentary on sites that fall between 13 ppt and the anticipated MCL of 4 ppt. *Id.* at 37-38. Aqua witness Berger represented that PFOS and/or PFOA were detected in over 300 entry points throughout Aqua's inventory with a minimum detection level of 2 ppt and that Aqua would be performing follow-up sampling on each of these sites to confirm that the detection is not a result of environmental or sampling technique influences. *Id.* at 38.

Aqua witness Berger testified that, in the interim, Aqua plans for many of those sites to have confirmed detections, and the CIP will require modification to achieve compliance by the end of the compliance period – which is anticipated to be in 2026, and contended the reasonable and prudent path is to address the knowns – 30 entry points that exceed 13 ppt – while working to confirm, plan, and pursue BIL funding where possible for multiple other projects that will be required in the next five years. *Id.*

⁶ Form W-1, Item 28, lists ten PFOS/PFOA filtration projects with estimated in-service dates between October 2022 and 2025.

Aqua witness Berger also took issue with the testimony of Public Staff witness Houser, which stated that the Company's aim is to achieve filtration to or below 10 ppt. She acknowledged that Aqua worked with its filter vendor to complete a pilot project at one location in 2022 with a treatment efficiency of 10 ppt or less. However, that project utilized a new technology and, at the time of design, 10 ppt was sufficient to meet the Company standard. She further asserted that in recognizing that a proposed MCL of 4 ppt is detectable PFOS and/or PFOA, Aqua's aim is that all future treatment will be based on treatment and operational goals of non-detect, including the projects currently identified in the CIP and any future projects that result from Aqua's ongoing sampling program. *Id.*

On examination by Commission Clodfelter, Aqua witness Berger testified that Aqua is pursuing treatment for 28 of the 30 entry points with concentrations of PFOS or PFOA above the Essential standard of 13 ppt while continuing to evaluate an entry point in a system that is paralleled by another utility and a well that is currently not in service for deactivation. *Id.* at 87-88. Witness Berger also testified that Aqua's treatment goal is no longer below 10 ppt but, rather, is nondetect for all future PFOS and PFOA projects due to the regulatory shift within the past six months. *Id.* at 89-91. Regarding whether it is reasonable for Aqua to proceed now with treatment, witness Berger contended that Aqua "needs to address it now," because the USEPA is "statutorily required to announce an MCLG and an MCL or treatment technique. . . by March 3rd, 2023" and "[t]here's word on the street of where [the MCL] will be," however, "exactly the date of when it will be finally, you

know, promulgated is still in question and the actual compliance deadline is still in question.” *Id.* at 91. Witness Berger contended that if Aqua waits until 2025, 30 sites that require some level of treatment or alternative by probably 2026 or 2027 is a “huge capital expenditure in a very short amount of time.” *Id.* at 91. For approximately 300 entry points with detectable PFAS, witness Berger testified that Aqua is “undertaking an extensive resampling effort, because when you get down to levels as low as 4 parts per trillion, my sticky note or Post-it note could trigger a detection” and “Sharpies can trigger a detection.” *Id.* at 92. In summation, witness Berger testified that Aqua should “do something now, while we continue to expand our knowledge of the brevity of the situation and then further enhance our capital plan” and then opined that treatment for the approximate 30 entry points would be “no-regrets investments.” *Id.* at 92.

In response to a question from Commissioner Duffley regarding the cost delta between treating to 10 ppt versus 4 ppt, Aqua witness Berger, despite indicating that Aqua witness Melton could probably answer the question better, testified “there shouldn’t be a significant capital cost,” but there could be increased operation and maintenance cost dependent on concentration and volume of water produced. *Id.* at 95.

Summary of the Joint Rebuttal Testimony of Aqua witnesses Shannon V. Becker, William Packer, Whitney Kellett, and Michael Melton (collectively, the Aqua WSIP Panel)

The Aqua WSIP Panel testified that Aqua disagrees with removing \$7.8 million of PFOS/PFOA treatment from rate base and the issue is addressed in

more detail in Aqua witness Berger's rebuttal testimony. Tr. vol. 11, 158. The Aqua WSIP Panel contended that Aqua has and continues to provide its best efforts to protect public health and despite what is currently deemed as an MCL in North Carolina, there is increasingly concern by the USEPA and other health officials over this emerging contaminant. The Aqua WSIP Panel asserted that Aqua will be required to install filters for these contaminants and the sites identified are highly likely to far exceed the assumed final MCL set by the USEPA. The Aqua WSIP Panel further testified that Aqua will continue moving forward with the design, permitting, and installation of PFOS/PFOA treatment, which Aqua indicated is planned to meet expected the USEPA PFOS/PFOA regulation, at specific systems because it is the right thing to do. The Aqua WSIP Panel noted in footnote 28 in the Public Staff's Joint WSIP testimony, the Commission has authority in the next general rate case to disallow costs, prospectively, related to capital included in a WSIP that are later determined to be imprudent and, in the meantime, these projects, upon completion, will also be subject to future review should the Public Staff want to challenge their prudence. *Id.* at 158-159.

USEPA Proposed Rule

On March 13, 2023, the USEPA Administrator, Michael S. Regan, signed a proposed rule⁷ for National Primary Drinking Water Regulation (NPDWR) and health-based Maximum Contaminant Level Goals (MCLG) for perfluorohexane

⁷ Pre-Publication Federal Register Notice. Available at [https://www.epa.gov/system/files/documents/2023-03/Pre-Publication%20Federal%20Register%20Notice PFAS%20NPDWR NPRM Final 3.13.23.pdf](https://www.epa.gov/system/files/documents/2023-03/Pre-Publication%20Federal%20Register%20Notice%20PFAS%20NPDWR%20NPRM%20Final%203.13.23.pdf).

sulfonic acid (PFHxS), hexafluoropropylene oxide dimer acid (HFPO-DA) and its ammonium salt (also known as a GenX chemicals), perfluorononanoic acid (PFNA), and perfluorobutane sulfonic acid (PFBS) and their mixtures as well as for PFOA and PFOS. The USEPA is proposing to set the health-based value, the MCLG, for PFOA and PFOS at zero. Considering feasibility, including currently available analytical methods to measure and treat these chemicals in drinking water, USEPA is proposing individual MCLs of 4.0 nanograms per liter (ng/L) or ppt for PFOA and PFOS. USEPA is proposing to use a Hazard Index (HI) approach to protecting public health from mixtures of PFHxS, HFPO-DA and its ammonium salt, PFNA, and PFBS because of their known and additive toxic effects and occurrence and likely co-occurrence in drinking water. USEPA is proposing an HI of 1.0 as the MCLGs for these four PFAS and any mixture containing one or more of them, because it represents a level at which no known or anticipated adverse effects on the health of persons is expected to occur and which allows for an adequate margin of safety. USEPA has determined it is also feasible to set the MCLs for these four PFAS and for a mixture containing one or more of PFHxS, HFPO-DA and its ammonium salt, PFNA, PFBS as an HI of unitless 1.0. On March 29, 2023, the USEPA published the proposed rule in the Federal Register⁸. This action is not final and does not require any actions until after USEPA considers public input and finalizes the regulation.

⁸ PFAS National Primary Drinking Water Regulation Rulemaking: Preliminary regulatory determination and proposed rule; request for public comment; notice of public hearing. Available at <https://www.federalregister.gov/documents/2023/03/29/2023-05471/pfas-national-primary-drinking-water-regulation-rulemaking#addresses>.

Discussion and Conclusions

Based upon a careful consideration of the entire record in this proceeding and the developing regulations, the Commission reaches the following conclusions discussed below regarding the important and complex issues surrounding PFAS.

The Commission gives considerable weight to the testimonies of the Public Staff and Aqua witnesses, however, the Commission finds that the Public Staff has clearly demonstrated the PFOS/PFOA projects proposed by Aqua are not “reasonably known and measurable capital investments” pursuant to N.C.G.S. § 62-133.1B.(a). While the entire record was considered, there were three key questions regarding PFOS/PFOA – where, what, and when – that were not answered sufficiently by Aqua to meet its burden of proof. N.C.G.S. § 62-75 provides the burden of proof shall be on the utility for the purpose of investigating any rate, service, classification, rule, regulation or practice to show that the same is just and reasonable. N.C.G.S. § 62-134(c) provides the burden of proof shall be on the public utility to show that a changed rate is just and reasonable.

The Commission finds that the recent issuance by the USEPA of a proposed rule to establish legally enforceable levels for six PFAS, including PFOS and PFOA, at limits lower than Essential’s policy, supports this finding. Further, there will be a robust public input process prior to issuance of a final rule, and the final legally enforceable levels and compliance schedule are unknown. At this time, given the regulatory uncertainty that significantly impacts the scope of the issue and potential solutions, it is not possible for the Company to come up with a holistic

plan shown to be cost-beneficial to customers. Basic problem-solving requires identification and definition of a problem before a solution can be identified. The Company's plan was formulated for 30 entry points identified based on Essential's policy. However, that number potentially balloons to over 300 entry points based on the proposed regulation and would materially change the calculus for formulating a plan of action. The Company's proposed plan of 10 PFOS/PFOA treatment "projects" is not definitive and Company rebuttal testimony was even less definitive, stating the 30 entry points are prioritized for treatment or other alternatives, such as purchase water, inactivation, or possibly drilling a new well.

Commission Rule R7-12 provides that every water utility shall comply with the rules of the NCDEQ governing purity of water, testing of water, and operation of filter plant. The Commission fully expects compliance and promotes the provision of safe and reliable utility service. The Commission determines that prospective cost recovery from customers of the proposed PFOS/PFOA projects is premature and not appropriate for approval as part of the modified WSIP. The Commission concludes there is insufficient evidence to support pre-approval of the Company's proactive approach, which lacks detail and could result in inefficient and ineffective costs being passed to customers.

Further, the distinction between coal ash and PFAS is clear. The continued disposal of coal ash in unlined ponds made the resulting environmental problems worse and more costly to resolve in the future. The regulation of coal ash was

delayed over decades. The regulation of PFAS compounds is actively being introduced and implementation is expected over the next couple of years.

The Commission concludes that Aqua should reasonably and prudently continue its due diligence by characterizing its water quality with respect to PFAS, developing contingency plans, and seeking federal and state funding. The Company indicated that confirmation sampling of the over 300 entry points would be performed. The testing results would inform the decision-making process and facilitate planning efforts based on potential regulatory outcomes, such as the proposed rule being finalized or higher allowable levels. The entry points and associated systems could be evaluated using criteria, including but not limited to well production, system demand, water quality, location, treatment technologies, proximity to another public water system, effectiveness, and estimated cost.

Finally, the Commission gives significant weight to the Public Staff's testimony regarding other potential cost recovery mechanisms available to the Company. Public Staff witness Junis noted that DWI is anticipated to incorporate federal IIJA⁹ funding as part of the spring application period. In Docket No. M-100, Sub 164, the Commission directs the Utility Parties to take all reasonable and prudent actions to obtain, directly or indirectly, federal grants, low interest loans, or other benefits available under the IIJA to benefit North Carolina retail customers by enhancing Utility Parties' ability to provide adequate, reliable, and economical

⁹ Infrastructure Investment and Jobs Act, H.R. 3684, 117th Cong. (2021) (IIJA).

utility service. The Commission further directs that such efforts should include, as reasonable and appropriate, working with entities that are direct recipients of funds that public utilities are not able to receive directly. Further, witness Junis testified that both CWSNC and Aqua, as part of the rulemaking proceeding, provided comments that the unplanned emergencies clause of the statute could be utilized to address PFOS and PFOA if a standard is established. N.C.G.S. § 62-133.1B(c) provides in part that, “[u]pon a petition to the Commission, the Commission may consider the addition of unplanned emergency capital investments that must be undertaken during a plan term to address risk of noncompliance with primary drinking water or effluent standards. . . even if such expenditures would cause the above-referenced cap to be exceeded.” In the joint filing made by CWSNC and Aqua on March 1, 2022, the Companies state, “[c]ircumstances that could legitimately trigger the utility to file a petition would include. . .material changes to primary water or sewer treatment standards such as PFAS/PFOA” and “[t]he utility would effectively be required to complete the capital investment in order to remain compliant with primary drinking water or effluent standards.”

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 82-84

Conservation Pilot Program

The evidence for these findings of fact is contained in the verified Application; the prefiled, and evidentiary hearing, direct testimony of Aqua witness David Haddad; the direct evidentiary hearing testimony of Aqua witness Dean R.

Gearhart; the prefiled, and evidentiary hearing, testimony of Public Staff witness Lindsay Q. Darden; and the prefiled, and evidentiary hearing, rebuttal testimony of Aqua witness Daniel T. Franceski.

Summary of Aqua Witness Haddad’s Prefiled Direct Testimony

Aqua witness Haddad testified that finding of fact 12 of the Commission’s Order of October 26, 2020, issued in Docket No. W-218, Sub 526, directs Aqua to (1) establish and implement a Conservation Rate Pilot Program (Pilot) and (2) use the data the Pilot produced to inform development of future rate structures. Witness Haddad testified that the Pilot was to last “at least two summer irrigation seasons but should conclude within three years of the implementation date or the effective date of new base rates in a general rate case application, whichever is earlier.” Tr. vol. 5, 131-132. Witness Haddad stated that the Pilot had only been in place for one full irrigation season when Aqua filed its Application and the results thus far are insufficient and cannot be adequately utilized for the development of future rate structures. *Id.* at 132. Witness Haddad stated that Aqua is requesting continuation of the previously approved Pilot and revenue reconciliation component, so Aqua can use the results of its Pilot to inform future rate structures. *Id.*

Summary of Aqua Witness Haddad's Testimony in Response to Cross-Examination

In cross-examination, Witness Haddad stated that the Company would like to continue the Pilot and related revenue reconciliation component through the end of the 2023 irrigation season so the Company will have enough data to inform future rate structures. He testified that the Company is not seeking to use the Pilot through 2025 and references to continuing the Pilot beyond the 2023 irrigation season in his pre-filed direct testimony were errors.

Witness Haddad stated that customers were due a credit for the first year of the Pilot because of higher customer usage. *Id.* at 144. He stated the Company's filing did not include an analysis of usage for the second year of the Pilot because information about the 2022 irrigation season was not available when the Company's Application was filed.

Summary of Aqua Witness Gearhart's Direct Testimony in Response to Questions from the Commission

Aqua witness Gearhart provided testimony about the Pilot in response to questions from Commissioner Duffley. Commissioner Duffley asked Company witness Haddad about customer usage for the second year of the Pilot, but he deferred to another Company witness because he was unable to answer the question.

Witness Gearhart testified that the Company received information about the 2022 irrigation season while the evidentiary hearing was underway. Witness Gearhart testified that the average consumption for the 2022 irrigation season was 2.7% below the baseline established for the Pilot. Tr. vol. 5, 218. Aqua provided 2022 usage data in Late-Filed Hearing Exhibit 5.

Summary of Public Staff Witness Darden's Prefiled Direct Testimony

Public Staff witness Darden testified that the Public Staff opposes Aqua's request to continue the Pilot because (1) Aqua has data for two irrigation seasons, which satisfies the data collection requirement the Commission established in the Sub 526 Rate Case; (2) the two irrigation seasons of usage data are sufficient to complete the Company's analysis; (3) the Pilot would last more than five years if the Company's request for a WSIP is approved, which violates the duration limitation the Commission established in the Sub 526 Rate Case; and (4) the Pilot further complicates metric reporting and the earnings test required as part of the WSIP the Company requested, should the Company's request be approved. Tr. vol. 7, 39-41. Witness Darden also testified that the Public Staff continues to have concerns about the practicability, fairness, and value of the Pilot Program. *Id.* at 40.

Witness Darden stated that the Public Staff recommends that the Commission deny the Company's request to continue the Pilot and direct Aqua use the data collected between October 26, 2020, and the issue date of the

Commission's final order in this proceeding (which encompasses be over two years of data) to complete its analysis. *Id.* at 39-40.

Summary of Public Staff Witness Darden's Testimony in Response to Cross-Examination, Questions from the Commission, and on Redirect

In response to cross-examination in reference to the time period over which Aqua would be able to collect data for the Pilot, witness Darden stated that Aqua will be able to collect data through the date on which new rates are implemented in this rate case. *Id.* at 51. Witness Darden confirmed that the Public Staff is concerned with conservation and noted that the purpose of the Pilot has changed since it was originally approved. She stated that the presence of a multi-year rate plan creates implementation issues tied to changing rate design in the middle of a rate year. Witness Darden stated that the original purpose of the Pilot, to propose a new rate design for all customers, will be very difficult to implement in the middle of a WSIP. She stated that there would be issues with customer notice and questioned whether customers would be shifted back to uniform rates or subject to a new proposed rate design at the conclusion of the Pilot. *Id.* at 53.

Witness Darden testified that when the Pilot was initially proposed, the Public Staff had concerns about whether the systems chosen for the Pilot were representative of Aqua's customer base as a whole. She stated that the Public Staff continues to have concerns about Aqua's ability to accurately extrapolate the results of the Pilot to its entire customer base. *Id.* at 56-57.

In reference to Commissioner Brown-Bland's question asking whether the Public Staff had seen any of its original concerns with the Pilot come to fruition, witness Darden stated that the Public Staff had not been provided with the 2022 data that Company witness Gearhart referenced on the stand. She stated that the purpose of the Pilot is unclear. The impact and value additional data will have on any conclusions drawn from the Pilot are also unclear because the customers participating in the Pilot are not a representative sample of Aqua's customer base. Similarly, in reference to Commissioner Hughes' question, witness Darden stated that the Public Staff does not believe additional data will lead to conclusive results because the systems chosen to be part of the Pilot are not representative of Aqua's entire customer base. *Id.* at 76. Witness Darden confirmed that the Public Staff's position in this proceeding is consistent with its position in the Sub 526 Rate Case. *Id.* at 60.

In response to Commissioner Kemerait's question, witness Darden stated that neither Aqua nor the Public Staff had reached out to the other to discuss the Pilot. *Id.* at 82.

In response to Questions on the Commissioner's Questions, witness Darden confirmed that Pilot customers are higher-than-average users and that the Public Staff previously speculated that, because of socio-economic factors unique to Pilot customers, higher consumption was to be expected.

Summary of Aqua Witness Franceski's Prefiled Rebuttal Testimony

Aqua witness Franceski testified that the Company did not have enough usage data for the 2022 irrigation season to perform relevant conservation trend analysis in advance of Aqua's filing on June 30, 2022. He further testified that usage data through the end of the update period does not accurately reflect the 2022 irrigation season because irrigation season in North Carolina continues through, at least, September. Tr. vol. 5,160. Witness Franceski stated that Aqua believes that "a three-summer period (through 2023) is needed to meaningfully evaluate the effects of the tiered rates, because usage in the initial summer would not be expected to decrease very much (when the high-use customers just began to receive bills higher than in previous seasons), so data from the second and third season should be collected before making conclusions about extending tiered rates to other areas." *Id.* Witness Franceski stated that Aqua recommends its analysis be completed and submitted in the fourth quarter of 2023 and included in the WSIP annual review scheduled in the first quarter of 2024. He stated that Aqua believes the Commission has the authority to terminate or change the rate design at that time, outside of a rate case per § 63 - 133.1B:

In approving an application submitted under this section, the Commission may impose any conditions in the implementation of a Water and Sewer Investment Plan that the Commission considers necessary to ensure that the utility complies with the plan, and that the plan and associated rates are just, reasonable, and in the public interest, and the plan reasonably ensures the provision of safe, reliable, and cost-effective service to customers.

Id. at 160-161.

Witness Franceski testified that prematurely eliminating the pilot rate structure without an appropriate sample period of results and a completed formal impact analysis will render the Pilot meaningless. Witness Franceski also stated that “[a]nother complication to eliminating the pilot would be that there was not a recommended alternative rate design in the application or the customer rate case notice for the pilot customers.” *Id.* at 161.

Commission Conclusions Regarding the Conservation Pilot Program

Based upon a careful consideration of the entire record in this proceeding, the Commission finds and concludes that it is reasonable and appropriate to: (1) discontinue the Pilot; and (2) move the customers who were previously charged the tiered rates of the Pilot back into the ANC Water Uniform rate class. As noted by the Public Staff, the Company has collected data for the period of time required and the Company should be able to use that data to complete its analysis. The Commission is also persuaded by the Public Staff’s assertion that circumstances have changed with the advent of the WSIP. Implementing the Company’s first WSIP is going to be challenging as the Parties and the Commission navigate how to complete novel tasks required by the WSIP statutes such as applying PBMs or computing the earnings test. The added complexity of a tiered rate design mechanism purely for the sake of additional data points is ill-advised and not in the public interest.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 85-88

Customer Assistance Program (CAP)

The evidence for these findings of fact is contained in the verified Application, the prefiled direct testimony and cross-examination of Aqua witness Becker, the prefiled direct testimony and cross-examination of Public Staff witness Darden, and the prefiled rebuttal testimony and cross-examination of Aqua witnesses Becker, Packer, Kellett, and Melton.

Summary of Aqua Witness Shannon V. Becker's Prefiled Direct Testimony

Aqua witness Shannon V. Becker provided testimony about the customer assistance program (CAP) the Company is proposing to assist low-income customers with arrears. According to witness Becker, the Company used a three step process to calculate a projected number of Aqua households living in poverty. Witness Becker testified that Aqua began its analysis by reviewing census data to identify the percentage of households in poverty for every county Aqua serves. Next, Aqua obtained information from its customer information system regarding the number of customers Aqua serves in each of the identified counties. Finally, Aqua applied the percentage of households in poverty in each county to the number of customers served in the county. Witness Becker further testified that Aqua performed the calculation separately for water and wastewater customers

and determined that approximately 12% (or 10,058) of its water customers and 11% (or 2,247) of its wastewater customers meet the definition of poverty using the U.S. Census Bureau's poverty thresholds. Tr. vol. 5, 56. Aqua's analysis is provided in Becker Exhibit 5.

Witness Becker testified that he believes "a grant program that provides assistance to income eligible households at risk of termination or without water service would provide an important resource for low-income families and seniors." *Id.* at 57. Witness Becker further testified "such a grant program could use 150% of the federal poverty level as the income guideline." *Id.*

According to witness Becker, the CAP, if approved, will be funded by repurposing \$45,000, or approximately 5%, of non-utility funds received from antenna revenues. Witness Becker testified that, if approved, Aqua plans to work with Dollar Energy Fund to administer the CAP. According to witness Becker, Dollar Energy Fund is a non-profit 501c(3) organization that provides software and training to local social service agencies to allow those agencies to receive applications and income documentation on behalf of customers who are seeking assistance. Witness Becker stated the Dollar Energy Fund offers an online application option. Per witness Becker, customers interested in participating in the CAP will complete the application process and provide their income documentation to verify their eligibility; Dollar Energy Fund will review and qualify customers for assistance; and Aqua will receive the qualified accounts, approve the grant

amounts, and ensure the grants are posted appropriately to the customer's account. *Id.* at 58.

Witness Becker testified that the costs to administer the program are included in, and will be deducted from, the proposed annual contribution of \$45,000. According to witness Becker, Dollar Energy Fund charges an operating fee, which has historically been 8.75% of the grant amount, and a per-application remuneration fee, varying between \$5 and \$10 per application, for each application processed. *Id.* at 58-59.

According to witness Becker, Dollar Energy Fund's software provides tracking and reporting tools that can be used to access funding level and review the number of applications received and processed. Witness Becker testified that the Company will "be able to provide regular reporting to external stakeholders as well as our internal leadership team on the utilization of the fund." *Id.* at 58. Witness Becker stated that, if the CAP is approved, the Company would like to report on the CAP's annual program activity as part of the Company's annual reporting requirement.

Summary of Aqua Witness Becker's Testimony in Response to Cross-Examination and Questions from the Commission

In cross-examination, Witness Becker testified that the needs analysis the Company completed to estimate the number of Aqua customers living in poverty was not tied to 150% of the federal poverty level. Witness Becker further testified

that the Company has not determined the number of Aqua customers living at or below 150% of the federal poverty level. Witness Becker further testified that the CAP the Company is proposing could use 150% of the federal poverty level as the eligibility threshold. *Id.* at 73-74.

During cross examination, witness Becker confirmed that the customer assistance program established by Aqua Pennsylvania, Helping Hand, has three defined eligibility criteria and one of those eligibility criteria requires household income that is less than 200% of the federal poverty level. *Id.* at 76. Witness Becker also confirmed that: (1) Aqua America shareholders contribute to Aqua Pennsylvania's Helping Hand program; and (2) there is not a proposal for Aqua shareholders to contribute to the CAP at this time. *Id.* at 77-78.

In response to questions from Commissioner Duffley, witness Becker testified that the Company's proposed CAP is similar to the Low Income Household Water Assistance Program (LIHWAP), but is a separate program that is meant to provide a long-term resource the Company's customers can access and would be administered over the long-term. *Id.* at 92. Witness Becker testified that he believes the LIHWAP is a temporary program, but conceded that he is "not aware that it's definitively going to end, and it may continue." *Id.* at 93. Witness Becker stated that, while somewhat similar, the Company's proposed CAP is separate and would be administered for the long-term. *Id.* at 92.

Witness Becker testified that the Company plans to use Dollar Energy Fund to administer the CAP, if it is approved, because Dollar Energy Fund is “a one-stop shop that facilitates [the Company’s] need [and] can also expand and offer assistance to [Aqua] customers that [is not] necessarily directly facilitated by [the Company].” *Id.* at 92.

Witness Becker also testified that he does not know how many applications Dollar Energy Fund would process in connection with the Company’s proposed CAP.

Summary of Public Staff Witness Lindsay Q. Darden’s Prefiled Direct Testimony

Public Staff witness Darden testified about several features of the proposed CAP based on information the Public Staff received from the Company in discovery. According to witness Darden’s recitation of information included in the Company’s response to Public Staff Data Request No. 87 (DR 87), the CAP would be available on an annual basis until the funds for the year are exhausted. Any unused funds at the calendar year-end carry over to the following year. Tr. vol. 7, 34. Witness Darden stated that eligible customers can receive one grant of up to \$500 per year. The amount of assistance awarded is determined by “customer need” and the is limited to a single grant per year “[b]ecause the program is intended to assist customers with arrears and not to be an ongoing support program.” *Id.* at 35. Witness Darden testified that, in its response to DR 87, the

Company “stated that the \$45,000 of annual funding was not derived from the number of participants or anticipated grant levels.” *Id.* Witness Darden further testified that the Company stated that it did not allocate any costs to the internal work associated with the proposed CAP because “the technology used by Dollar Energy Fund is very well-suited to utilities and the time required to review pending applications via [Dollar Energy Fund’s] online portal is expected to be minimal for Aqua staff.” *Id.* at 34.

Public Staff witness Darden testified that the Public Staff has three major concerns about the proposed CAP: (1) the lack of support and analysis for the development of the program; (2) the cost-benefit to customers; and (3) the philosophy of the program. *Id.* at 35.

Witness Darden testified that the Company did not assess the actual needs of its customers while developing the proposal because the Company admitted that it did not examine its customer base using the only eligibility threshold discussed in connection with the proposed CAP: household income at or below 150% of the federal poverty guideline. According to witness Darden, it is difficult to determine expected need and the projected customer impact when the pool of eligible customers has not been identified.

Witness Darden testified that Aqua’s proposal to base the proposed CAP’s funding on 5% of the annual antennae revenues is arbitrary and totally unrelated to the affordability of water and sewer utility service. Witness Darden stated that

the program should be based on expected need and the projected customer impact. *Id.* at 35-36. According to witness Darden, the absence of projections about the number of eligible customers makes it unclear if \$45,000 is an appropriate amount to provide meaningful relief to low-income customers.

Witness Darden testified that a total of 80 customers a year could receive a \$500 grant after Dollar Energy Fund's fee of 8.75% of the total grant amount is deducted from the \$45,000 the Company proposes to use for the CAP. Witness Darden also provided the following example: with the \$45,000 program amount, if customers apply for a grant to cover one average water and sewer bill at ANC uniform rates, approximately \$129, the funding would only provide relief for 300 customers, or 2.4% of customers that meet the poverty line. *Id.* at 36. Witness Darden testified that the Public Staff also has concerns about the high administrative fees associated with the proposed CAP. *Id.* Witness Darden further testified that approximately 10% of the program funding could go to pay administrative fees as opposed to directly assisting customers. *Id.* Witness Darden stated that, while the Public Staff does not oppose a well-designed and properly justified low-income assistance program, Aqua has failed to show the need for and purpose of the program. Witness Darden also stated that, due to the imputed non-utility revenues, the funding of this program affects all rate payers; as such, Aqua needs to address the purpose of the program and clarify the benefits to all ratepayers. *Id.* at 37.

Witness Darden stated that the Public Staff recommends further analysis to determine the proposed CAP's impact on all Aqua customers and suggests that a separate docket be opened to further investigate the program. *Id.* at 38.

Summary of Public Staff Witness Darden's Testimony in Response to Cross-Examination, Questions from the Commission, and on Redirect

In response to questions from Commissioner Brown-Bland, witness Darden testified that the Public Staff opposes the proposed CAP because additional analysis is needed. Witness Darden stated the Public Staff is seeking additional information including the number of customers in need of assistance, the number of customers with arrearages, the number of customers the Company expects will seek assistance, insights from similar programs operated by Essential, and the way the Company's proposed CAP will work in association with other available programs such as LIHWAP. *Id.* at 59. Witness Darden also reiterated the Public Staff's concerns with the high administration costs associated with the proposed CAP.

In response to questions from Commissioner Duffley, witness Darden stated that the Public Staff did not know Aqua was planning to propose a CAP and the Public Staff and Aqua did not discuss anything related to a potential CAP while Aqua was developing its proposal. *Id.* at 70-71.

In response to Questions on the Commissioner's Questions, witness Darden confirmed that the customer eligibility information listed on printout from

the Helping Hand website, provided on Becker Direct Public Staff Cross Examination Exhibit 1, is an example of the kind of information the Public Staff is seeking before it will be comfortable with ratepayers funding the proposed CAP. *Id.* at 91.

Summary of Aqua Witnesses Shannon V. Becker, William Packer, Whitney Kellett, and Michael Melton Prefiled Rebuttal Testimony

Aqua witnesses Becker, Parker, Kellett, and Melton responded to the Public Staff's concerns with the proposed CAP that Public Staff witness Darden articulated as a panel. The panel testified that the Company "used census data to identify the percentage of households in poverty of each county within Aqua's service territory, in conjunction with customer data, to determine the potential population of customers with low income that are potentially payment trouble as a result of low household income." Tr. vol. 11, 166.

The panel further testified that the Company's analysis gave the Company "a general picture of the financial need across Aqua's territory as it highlights that roughly one in ten customers likely has income at or below poverty level." *Id.* The panel further testified that, upon reviewing the data, the Company "recognized a safety net customer assistance would be an important tool [. . .] to support low-income households that face potential loss of service due inability to pay arrears." *Id.*

The panel testified that the Company disagrees with witness Darden's assertion that the Company's decision to repurpose 5% of antenna revenues to fund the proposed CAP was an arbitrary figure. According to the panel, the Company believes that repurposing 5% of antenna revenues for use in a CAP would have a relatively small impact to ratepayers overall and balances the needs of those participating in a safety net program with the costs of the program to other ratepayers. The panel stated that a CAP based on need could be quite sizeable in light of the Company's assessment that one in ten customers are likely in poverty. The panel testified that the Company wants "to fund the CAP using 5% of antenna revenue as an initial funding point [in order to] gain experience with the program's use to further determine the appropriate funding levels of the future. *Id.* at 167.

The panel testified that the Company disagrees with witness Darden's calculation that only 80 customers would be served under the proposed CAP. The Company explained that:

The maximum grant available under our proposal is \$500; however, it is important to note that the approved grant amount would be based on need, rather than the maximum. Average grants are typically less than the maximum. A review of our November delinquencies for customers with arrears greater than 60 days shows an average amount of \$157.

Id. at 168.

The panel responded to Public Staff witness Darden's testimony regarding the administrative costs by defending the Company's decision to partner with Dollar Energy Fund and clarifying the Company's earlier testimony regarding the application processing fee. In reference to the application processing fee, the panel

testified that the fee is not retained by Dollar Energy Fund; it is passed back to the local social services agency that assisted the customer with the completion of the application as remuneration for the agency employee's time and effort. *Id.* at 169. The panel stated that the Company does not believe that automatic qualification is the best path for Aqua's proposed CAP because the proposed CAP is a safety net program with limited annual funding. The panel stated that the Company believes customers should be required to substantiate their income during the application process to ensure that only income eligible consumers receive the benefit of the limited funding available. *Id.* at 169-170. The panel testified that Aqua does not agree with the Public Staff's recommendation regarding establishment of a separate docket to further investigate the program. According to the panel, this docket is the proper venue for reviewing the Company's proposed CAP because the Company is proposing to re-purpose antenna revenues to fund the CAP in this proceeding. *Id.* at 170.

***Summary of Aqua Witnesses Becker, Packer, Kellett, and Melton
Rebuttal Panel in Response to Questions from the Commission***

In response to questions from Commissioner Brown-Bland question regarding the iPartner© system, Aqua witness Becker testified that iPartner© is the system that Dollar Energy Fund uses to vet applicants, but that he did not know what benefits the Company or the customers would receive from using iPartner©. *Id.* at 217.

Commission Conclusions Regarding the Customer Assistance Program

Based upon careful consideration of the entire record in this proceeding, the Commission finds that it is reasonable and appropriate to deny the Company's requested CAP.

The Commission acknowledges the need for aid to customers who have accrued arrearages and are in danger of disconnection. The Commission also acknowledges that Commission-approval of such a program, especially when the program will be funded entirely by ratepayers, should not be lightly given. Before approving such a program, the Commission must understand the benefits the program will provide, the cost of the program to ratepayers, and the way in which the proposed CAP will be implemented.

The current proposal is underdeveloped and needs refinement. The Commission agrees with the Public Staff's assessment that the eligibility criteria and projected impact of the Company's proposed CAP need to be further defined and quantified. A fully developed proposal ripe for the Commission's consideration must, at a minimum, include the following information: (1) an assessment of the number of Aqua customers in need using the program's eligibility criteria; (2) an assessment of the number of Aqua customers in need based on arrearage data; (3) an assessment of the number of Aqua customers the program can assist considering arrearage data and the program's funding; (4) a discussion of similar

programs used by Aqua affiliates; (5) a discussion outlining the ways in which the proposed CAP will work alongside other need based programs such as the LIHWAP; (6) a detailed description of how the program will be administered; (7) a clearly defined eligibility criteria; (8) a detailed description of the proposed CAP's benefits; (9) a detailed analysis of the costs to fund and operate the program; (10) a detailed description of the ways in which program success will be evaluated; and (11) a discussion of program reporting requirements.

The Commission concludes that without a fully developed and comprehensive proposal for the CAP, the Company's request to implement this program is premature. The Commission encourages the Company to further develop its CAP proposal and consider incorporating a shareholder contribution to the program.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 89-95

Wakefield Filter Project

The evidence supporting these findings of fact is contained in the testimony of Public Staff witness Jay Lucas and testimony of Aqua witness Michael Melton.

Pre-Filed Testimony of Public Staff Witness Lucas

In the pre-filed direct testimony of Public Staff witness Lucas, witness Lucas explained that in 2016 Aqua began a project to install a treatment system to remove iron and manganese at Well #6 and Well #8 in its Wakefield service area

(Funding Project 35800060544) with an approved cost projection of \$370,000 to \$395,000. Tr. vol. 6, 247. Witness Lucas stated that the final cost more than doubled to \$857,797, Aqua did not complete the project until 2021, and it incurred unreasonably excessive costs due to problems with internal staffing and with an engineering consultant that, according to Aqua, did not provide adequate work. Witness Lucas testified that Aqua pursued an easement to connect Well #6 and Well #8, which would allow it to build just one treatment system and simultaneously contracted with an initial engineering consultant for the design but should not have proceeded with the design without the final easement. After encountering difficulty obtaining an easement, Aqua pursued installing treatment systems at both wells but abandoned this plan after eventually obtaining the easement to connect the wells. Witness Lucas further testified that Aqua paid the initial engineering consultant to design the project but failed to seek reimbursement for the unsatisfactory design. Aqua's explanation of the excessive costs was in response to a Public Staff Data Request as shown in Lucas Exhibit 3. Witness Lucas testified that Aqua managed this project imprudently, which resulted in the project's unreasonably excessive costs, and the full final cost of \$857,797 should not be placed on Aqua's customers. Witness Lucas recommended that the Commission disallow 25% or \$214,449 of the project's final cost. Witness Lucas testified that the amount of disallowance approximates the charges from the original engineer whose work was unsatisfactory, AFUDC, and Aqua charges such as capitalized time and allocations. *Id.* at 247-248.

Summary of Witness Lucas' Testimony in Response to Cross-Examination and Questions from the Commission

Upon cross-examination, witness Lucas testified that Aqua's previous engineering manager, Mr. Michael Poulious, left the Company in May 2017, and the engineer assigned to the Wakefield project, Ms. Kavitha Ambikadevi, left the Company in April 2018. *Id.* at 260. Aqua's current engineering manager, Mr. Michael Melton, joined the Company in January 2018, and Aqua assigned a new engineer, Mr. Norris, to the project in late 2018. *Id.* at 265. Witness Lucas did not provide testimony on the prudence or imprudence of the Aqua's management of its staff, but testified that Aqua's parent company, Essential Utilities, should have recognized that the project was many months behind schedule and taken action to correct it. *Id.* at 264.

Witness Lucas testified that Aqua should not have hired its first engineering consultant and begin purchasing equipment for the project before it had an easement to connect Well #6 and Well #8. *Id.* at 264. On redirect, witness Lucas further testified that Aqua should not have paid its first engineering consultant for work that it believed was late and unsatisfactory, and it is improperly claiming AFUDC for the entire project term. *Id.* at 270-273.

Summary of the Pre-Filed Rebuttal Testimony of Aqua Witness

Michael A. Melton

In the pre-filed rebuttal testimony of Aqua witness Melton, witness Melton explained that the Public Staff and the Commission gave approval for Aqua's project to remove excess iron and manganese from the water system in its the Wakefield service area. Tr. vol. 10, 133. Aqua started the project in March 2016 with the original plan to combine Well #6 and Well #8 so that it would only have to build one treatment system instead of two. Witness Melton testified that combining the wells would require a new pipe built in an easement obtained from Bayleaf Baptist Church, and Aqua believed the church would grant the easement. *Id.* at 134-135. This plan was delayed because of indecision by the church and the departures of the project manager, Mr. Poulious, and the project engineer, Ms. Ambikadevi. Witness Melton further testified that because of indecision by the church, Aqua decided not to connect Well# 6 and Well #8 and to build two treatment systems instead of one. *Id.* at 135. Later, Bayleaf Baptist Church became Crossroads Fellowship Church, which gave Aqua the easement that allowed it to connect the wells and build one treatment system. *Id.* at 137. Witness Melton testified that Aqua's original engineering consultant provided a design that was incomplete, Aqua had to contract with a second consultant which added delays to the project, and pursuing repayment from the first consultant would be cost prohibitive. *Id.* at 140-142.

Summary of Witness Melton's Testimony in Response to Questions from the Commission

In response to questions from the Commission, witness Melton stated the cost of the project with one iron and manganese filtration system would have been \$642,000 and with two filtration systems would have been \$700,000. The annual operation cost for a filter is \$4,000 to \$5,000 depending on the size of the filter. *Id.* at 162. The easement to connect Well #6 and Well #8 cost \$26,469. *Id.* at 165. Witness Melton testified that Aqua asked the initial consulting engineer to pause the project, but instead, the consultant terminated it. *Id.* at 162-163. Witness Melton further testified that the second consulting engineer was able to use about 10% to 15% of the initial consulting engineer's work. *Id.* at 164.

Discussions and Conclusions

Based on the foregoing, the Commission finds that Aqua imprudently incurred costs for engineering and equipment before it had the easement necessary to complete the project as planned, and imprudently paid its first consulting engineer for work that it believed was late and not adequate. The Commission further finds that Aqua's internal staffing problems delayed the project, and the project took five years and six months to complete, resulting in an excessive AFUDC. The Commission concludes that the amount of utility plant-in-service for this project should be decreased by 25% of \$857,797 resulting in a \$214,449 disallowance.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 96-97

Performance Based Metrics

The evidence supporting these findings of fact is contained in the Direct Testimony of Aqua witness Shannon v. Becker, the Joint Rebuttal Testimony of Aqua witnesses Becker, William Packer, Whitney Kellett, and Michael Melton (collectively, the Aqua WSIP Panel); the Joint Testimony of Aqua witnesses Becker, Joseph Pearce, Michael A. Melton, and Amanda A. Berger (collectively, the Aqua PBM Panel); the Joint Testimony of Public Staff witnesses Michelle M. Boswell, John R. Hinton, Charles M. Junis, Kuei Fen Sun, and Fenge Zhang (collectively, the Public Staff WSIP Panel); witness Becker's, the Aqua WSIP Panel's, the Aqua PBM Panel's, and the Public Staff WSIP Panel's evidentiary hearing testimony; and the entire record in this proceeding.

Summary of the Direct Testimony of Aqua witness Shannon v. Becker

Witness Becker testified that "PBMs are required to benefit customers, drive utility performance, or support Commission goals that ensure the provision of safe, reliable, and cost-effective service by the water or sewer utility." Tr. vol. 5, 37. Witness Becker testified that Commission Rule R1-17AI(10) requires that at least one PBM be established in each of four categories: (1) operational compliance; (2) customer service; (3) service reliability; and (4) workplace health and safety. *Id.*

Witness Becker recommended that the parties "focus on the development of baseline PBMs to be used as its tracking metrics" and did not propose any

incentives or penalties. *Id.* at 37. In support of this recommendation, he stated, “establishment of a target and related penalty or incentive associated with that target would be premature due to the lack of well-recognized and consistently calculated industry metric standards or the lack of established Company-specific trends or patterns for the proposed metrics.” *Id.* at 38.

Witness Becker testified that the Company proposed one PBM in each of the four categories set out in Commission Rule R1-l(c)(10). For operational compliance, the Company proposed to use compliance with the Safe Drinking Water Act (SDWA) and the Clean Water Act. Witness Becker stated that compliance with the USEPA established guidelines “requires utilities to effectively operate the utility, monitor and treat for pollutants, and invest in infrastructure to protect drinking water sources from pollutants that impact human health and the environment.” *Id.* at 40. He further stated that “[c]ontinuous or severe non-compliance with these regulations is an indication of substandard operation of a utility. *Id.* Witness Becker proposed to use as a SDWA compliance rate the MCL standard for health-based violations calculated by dividing health-based violations by the number of Public Water Systems operated by Aqua and regulated by the USEPA. *Id.* at 41. For Clean Water Act compliance, witness Becker proposed to compare the Company’s Significant Non-Compliance (SNC) rate developed by the USEPA to the SNC rates of similarly sized treatment facilities across the United States.

In addition to the Company's proposed operational compliance metric, the Company proposed a modified version of the American Water Works Association benchmark to monitor water quality as a Customer Service metric and as a replacement to the Semi-Annual Secondary Water Quality Report the Commission directed the Company to file in its final order in the Docket No. W-218, Sub 363 rate case; unplanned water and sewer service interruptions as a Service Reliability metric; and Occupational Health and Safety Administration (OSHA) recordable work-related injuries and illness as a Workplace Health and Safety metric. Aqua and the Public Staff agreed to metrics in these categories as part of the Stipulation.

Summary of Witness Becker's Testimony in Response to Cross-Examination and Questions from the Commission

When asked by Commissioner Kemerait whether the Commission would be missing an opportunity to further the goal of incentivizing the Company to provide safe, reliable, and cost-effective service if the Commission did not attach incentives and penalties to the PBMs, witness Becker suggested that incentives and penalties could be used "as long as they are balanced" and once "metrics are validated and are relevant" and are "not duplicative of where we have other requirements on reporting" *Id.* at 101.

According to witness Becker, N.C.G.S. § 62-133.1B. does not discuss incentives or penalties tied to PBMs, but he acknowledged that Commission Rule R1-17A(b)(1) provides that "[t]he Commission may approve penalties or incentives

based on the results of approved metrics” and that “[s]ome metrics may be tracking metrics with or without targets or benchmarks to measure utility achievement.” *Id.* at 117. When asked if he had an opinion about how long it would take to validate metrics, witness Becker stated, “I would have no doubt by the end of this WSIP period . . . we would be able to assess whether or not those are relevant metrics that mean something to the Commission and to the Public Staff and to our consumers and to the shareholders.” *Id.* at 102.

Chair Mitchell noted that “the statute doesn’t contemplate this . . . period of time to determine what metrics are appropriate or not” and asked witness Becker why the Company had not gotten together with the Public Staff to establish a set of PBMs “that could be workable this time around.” *Id.* at 103. In response, witness Becker testified:

My view was the performance-based metrics are a requirement of the WSIP, you know, in those four categories. So we tried to identify the most relevant - - what we thought would be very relevant to the Commission to monitor. And I say monitor because they have to be worked out. We don’t always know what the nuances are of what’s going to affect that. If we write it one way - - and if you look at some of the recommendations from the Public Staff, if you write it one way, it could be interpreted differently. *Id.* at 105.

Witness Becker further testified that he was “hoping that this would be more of an industry-determined standard for some of these metrics,” but immediately noted, “Although we’re very different, right?” *Id.*

Witness Becker ultimately acknowledged that it “probably would have been the wise thing” for the Company to meet with the Public Staff to develop PBMs, but

the Company was “focused on pulling together this rate case, which was a very big and different challenge, and we just did not do that. That was a missed opportunity.” *Id.* at 106.

Commissioner Hughes asked witness Becker what cost savings would be achieved for customers as a result of the WSIP and noted, “I got the impression that the penalties and incentives were, kind of, an effort to try to lay that on, but without those, what can we point to customers?” *Id.* at 109. In response, witness Becker testified:

[T]hose penalties and incentives down the road will be beneficial to - will likely be [] beneficial, whether we can reduce O&M for a project or going out and getting additional grant monies. That will be beneficial down the road. I just think that the performance-based metrics need to be vetted. The guardrails need to be vetted before we install them and enact them. *Id.* at 110.

Summary of the Joint Testimony of Public Staff witnesses Michelle M. Boswell, John R. Hinton, Charles M. Junis, Kuei Fen Sun, and Fenge Zhang (collectively, the Public Staff WSIP Panel)

The Public Staff WSIP Panel testified that the PMBs proposed by the Company do not provide any insight into the Company’s ability to control costs while maintaining service quality, use revenue and assets effectively and efficiently, and complete capital projects on time and on budget. The Public Staff WSIP Panel further testified that it was concerned about the Aqua’s failure to provide benchmarks and targets to measure the Company’s performance and to provide context to the data produced by the metrics. Tr. vol. 8, 74. The Public Staff

WSIP Panel testified, “Benchmarks are crucial to the Commission’s ability to monitor the Company’s performance and determine, for itself, whether the Company is satisfying a threshold requirement for a WSIP: the provision of reliable, safe, and compliant water and wastewater services.” *Id.* at 75. The Public Staff WSIP panel further testified that “[p]erformance-based ratemaking without meaningful benchmarks to evaluate the utility’s performance defeats the purpose of the performance-based aspect of a WSIP.” *Id.*

Due to these concerns about the Company’s proposed PBMs, the Public Staff WSIP Panel recommended modifications to the Company’s proposed PBMs; additional PBMs, including incentives and penalties; and that the Commission require the Company to collect data needed to measure the Company’s achievement on certain performance-based indicators. *Id.* at 74.

The Public Staff WSIP Panel recommended the following additional PBMs, incentives, and penalties, which are set out in Public Staff WSIP Exhibit 7, and which were not ultimately agreed upon by the Stipulating Parties:

Description	Measure	Incentive/Penalty
Timely Completion of CIP Projects	Percentage of CIP projects \$200K or over in the approved WSIP incomplete during the planned rate year on a Company basis	Ten basis point ROE reduction to the high-end of the Commission authorized band if measure exceeds: 10% in Rate Year 1 20% in Rate Year 2 30% in Rate Year 3
Completion of CIP Projects on Budget	Percentage of CIP projects \$200K or over that cost in excess of 110% of the estimate in the approved WSIP on a Company basis	Ten basis point ROE reduction to the high-end of the band if measure exceeds: 10% in Rate Year 1 20% in Rate Year 2 30% in Rate Year 3
Safe Drinking Water Act Compliance	% days in compliance - (sum of all days - sum of all days out of compliance) / sum of all days Sum of all days = No. of systems x 365 days	Ten basis point ROE reduction to the high-end of the band if less than 100% compliance on Company basis
Clean Water Act Compliance	% days in Compliance - sum of all days - sum of all days out of compliance) / sum of all days	Ten basis point ROE reduction to the high-end of the band if less than 100% compliance on Company basis

The Public Staff WSIP Panel noted that its recommended metrics “add a level of granularity that is not present within the Company’s proposed metrics and can be interpreted together to assess whether the Company is excelling in one area at the expense of poor performance in another area.” *Id.* at 76. By way of example, the Public Staff WSIP Panel noted that “a company’s ability to complete capital projects on time should not come at the expense of cost overruns,” and therefore “it is important to measure both timeliness of completion and adherence to budget so that the outcomes can be evaluated together.” *Id.*

Regarding the penalties and incentives attached to its recommended PBMs, the Public Staff WSIP Panel testified that implementation of the Public Staff's penalties and incentives encourages good business practices to control costs and ensure responsiveness to customers by providing corrective action if the Company's performance declines. *Id.* at 78. The Public Staff WSIP Panel noted that the Company's performance on each metric should be reviewed as part of the quarterly reporting process, and any necessary adjustments to ROE will be applied to the earnings test of the WSIP Rate Year that is the subject of the annual review. *Id.*

Summary of the Public Staff WSIP Panel's Testimony in Response to Cross-Examination and Questions from the Commission

The Public Staff WSIP Panel was not asked cross-examination questions on this issue.

Commissioner Kemeraite asked the Public Staff WSIP Panel a number of general questions about its PBM recommendations, including what efforts the Public Staff made to try to reach agreement with Aqua on PBMs. In response, Public Staff WSIP Panel witness Junis testified:

[T]here was just an extreme press for time, in terms of trying to prioritize just to pull together and finalize our investigation, especially in light of some of the issues with getting information. And so it was not our priority and nor did we have the time to try to communicate with the Company and adjust. *Id.* at 256.

Witness Junis noted that the Public Staff took the same position on PBMs in the rate case filed by Carolina Water Service of North Carolina, Inc. (CWS), in Docket No. W-354, Sub 400, and therefore Aqua had a preview of the Public Staff's position on the topic of PBMs and could have reached out to the Public Staff to negotiate. *Id.*

When asked "whether incentives or penalties in this WSIP proceeding would be necessary or required to show customer benefit in this docket," witness Junis responded that, based on his experience in the CWS rate case and the order issued by the Commission in the Commission Rule R1-17A rulemaking docket, he believes the Commission considers incentives/penalties to be required in a WSIP. *Id.* at 257-258. Witness Junis testified that the Public Staff agrees that incentives and penalties are required in a WSIP and the Public Staff took that into account in its approach to PBMs. Witness Junis further testified:

We also tried to take a measured approach with the penalties and incentives. We are only addressing the top end of the band. There is no, if you don't do this, then you have to refund a million dollars to customers. We're talking about basis point incentives to at least quantify some motivation, some skin in the game of you are going to do better, or at least as good as you are, depending on the metric. *Id.* at 258.

In response to a question about the need for historical data, witness Junis testified that it is "not a requirement to establish a metric." *Id.* at 259.

When asked in reference to Public Staff WSIP Exhibit 7 why it is appropriate to have more penalties than incentives, witness Junis noted that Public Staff was

very concerned about whether the Company would adhere to the WSIP, which includes important benefits to customers and, therefore, the Public Staff believed it was appropriate to use penalties to ensure that the Company does not simply modify the approved plan or incur high costs. Witness Junis further noted that some of the metrics, such as compliance with environmental regulations, are required by Commission Rules and are therefore baseline requirements that the Company should incur a penalty for not complying with. *Id.* at 260. Witness Junis testified in response to another question from Commissioner Kemerait that the Public Staff viewed some metrics as appropriate for tracking, without incentives or penalties, to establish benchmarks. *Id.* at 261-262.

Following her more general questions, Commissioner Kemerait asked the Public S WSIP Panel questions directed at specific PMBs the Public Staff had proposed. Regarding the Public Staff's recommended PBMs for Timely Completion of Capital Improvement Plan (CIP) Projects and Completion of CIP Projects on Budget, she asked whether the Public Staff agreed with the Company's assertion that these metrics rely on factors outside the Company's control. In response witness Junis testified that "none of this can be viewed in a vacuum," but ultimately, the Company controls its costs and its management of projects. Tr. vol. 9, 10. He noted that, in recognition of the fact that there is some uncertainty, the Public Staff incorporated a "buffer" into these PBMs that expands each year to account for additional uncertainty inherent in each additional year further removed from the formulation of the CIP. Witness Junis further noted that the two PBMs

were paired appropriately so that the Company does not incur substantially higher costs in order to complete a project in the specified WSIP Rate Year. *Id.* When asked whether these PMBs could lead to higher costs for customers, such as if the Company had to include liquidated damages clauses in its contracts, witness Junis testified that the Company had failed to provide any support for that argument and noted that a reasonableness and prudence standard still applies. *Id.* at 13.

Regarding the Public Staff's Safe Drinking Water Act Compliance and Clean Water Act Compliance metrics, Commissioner Kemerait asked whether the Public Staff was requiring 100% compliance in order for the Company to avoid the imposition of a penalty. Witness Junis confirmed that the Public Staff's PMBs would assess a penalty for less than 100% compliance and testified, "[t]he hard part with environmental compliance is we don't want to represent that 80 percent is good enough, 90 percent is good enough. The expectation is compliance. That's actually a Commission rule, both on the water and wastewater side." *Id.* at 21. Witness Junis later testified that the Public Staff would be open to discussion of the appropriate level of compliance. *Id.* at 23.

Summary of the Joint Rebuttal Testimony of Aqua witnesses Joseph Pearce, Amanda Berger, Michael Melton, and Shannon V. Becker (collectively, the Aqua PBM Panel)

The Aqua PBM Panel testified regarding the Company's position on PMBs:

The Company continues to believe that relevant metrics must be "clearly defined, measurable, and easily verified by stakeholders,"

and is supportive of identifying metrics for tracking purposes during at least this first Aqua request for a WSIP. However, establishing arbitrary targets by which the utility will be measured and assessing penalties or incentives without an established baseline would be premature. Tr. vol. 10, 180.

The Aqua PBM Panel testified that incentives can “promote behavior necessary to exceed [standard operational expectations] or to attain other Commission priorities” and that penalties can be imposed for “failing to meet meaningful industry metrics and certain Commission prioritized standards” but also recommended that the Commission “avoid the establishment of penalties and incentives on any metric at the outset of the WSIP.” *Id.* at 182. The Aqua PBM Panel warned that “the establishment of an incentive or penalty using an arbitrarily determined target may be misguided and incent behavior necessary to meet the metric but resulting in an unintended outcome.” *Id.* By way of example, the Aqua PBM Panel testified that “assessing a penalty based on achievement of a projected amount or estimated completion date for a project may have the unintended result of reduced quality or longevity in a project. *Id.*

In addition to asserting that it is premature to establish penalties and incentives for metrics, the Aqua PBM Panel asserted that the Public Staff’s recommended PBMs were “not based on established norms, standards established for peer utilities, or even improvements against historic company baselines,” and that they were “lopsided and heavily in favor of penalties.” *Id.* at 183.

The Aqua PBM Panel testified regarding the Public Staff's recommended PBM on Timely Completion of CIP Projects, that any failure by the Company to complete CIP projects within a particular rate year "is not typically due to lack of proper Aqua project management and planning but rather is due to contractor issues with materials, supply, and staffing." *Id.* at 185. The Aqua PBM Panel asserted that the Company would have to "institute a higher dollar amount liquidated damage clause into contracts for these projects. In return, the contractors would increase their prices to cover their risk of paying liquidated damages." *Id.* at 185-186. The Aqua PBM Panel did not provide any example of such a price increase occurring or otherwise support its assertion. Additional critiques by the Aqua PBM Panel of the Public Staff's recommended Timely Completion of CIP Projects was that it did not take into account the need to reprioritize projects based on environmental risks and operational challenges, and that tracking and reporting on such a metric would be burdensome. *Id.* at 186.

Regarding the Public Staff's recommended PBM for Completion of CIP Projects on Budget, the Aqua PBM Panel testified that the metric does not recognize that Aqua does not recover the project cost exceedances associated with WSIP projects until the next annual reconciliation and the additional cost of capital would be borne by the Company. The panel also asserted that the WSIP budget does not include the higher level of liquidated damage provisions it contends would be required if the Public Staff's Timely Completion of CIP Projects

metric were implemented and that it does not account for cost increases outside the Company's control. *Id.* at 187.

The Aqua PBM Panel testified that the Public Staff's recommended Safe Drinking Water Act Compliance metric "does not provide granularity towards the Company's ability to provide safe drinking water" and is based on a standard of absolute perfection. *Id.* at 189-190. The Aqua PBM Panel noted that violation citations can be issued to the Company for reporting failures or for violations at systems the Company did not own at the time. The Aqua PBM Panel testified that such violations would not impact the safety of the drinking water provided by the Company, nor would it demonstrate whether the Company is operating efficiently and cost-effectively. *Id.* at 190.

The Aqua PBM Panel's critiques of the Public Staff's recommended Clean Water Act Compliance metric were similar to its critiques of the Public Staff's recommended Safe Drinking Water Act metric. In addition, the Aqua PBM Panel noted that, as was stated in witness Berger's individual rebuttal testimony, the Company's wastewater systems "are not designed with the necessary redundancies and capacity to achieve 100% compliance," and that the USEPA has targeted Significant Non-Compliance that could harm the environment or human health, as opposed addressing every National Pollutant Discharge Elimination System non-compliance event. *Id.* at 191-192. Finally, the Aqua PBM Panel stated that the Public Staff's recommended PBM "does not provide any real measurement

of the utility's performance, although historical data and context was provided to the Public Staff" *Id.* at 192.

Summary of the Aqua PBM Panel's Testimony in Response to Cross-Examination and Questions from the Commission

The Aqua PBM Panel was asked on cross-examination whether the Company currently collected the data that would be needed to utilize the Public Staff's recommended PBMs. In response, the Aqua PBM Panel testified that it does not currently monitor completion of projects "against the months that . . . have been requested as part of the WSIP." *Id.* at 201-202. Regarding completion of projects on budget, the Aqua PBM Panel testified that moving to the WSIP and "going from a budgetary cash allocation need to a 'when it is actually gonna be in service'" was a significant change in the Company's project budget tracking practices, and the Company had not "established that refinement of reporting." *Id.* at 202.

Regarding the Public Staff's proposed operational compliance PBMs, Witness Berger testified that the Company tracks Safe Drinking Water Act and Clean Water Act compliance separately based on MCL violations and monitoring and reporting violations, as opposed to all violations being combined. *Id.* at 203.

The Aqua PBM Panel was asked by Chair Mitchell why the parties were not farther along in terms of developing mutually agreeable PBMs. In response, witness Becker testified, "Our efforts [in proposing the WSIP to the General

Assembly] focused on the contents of the WSIP through the . . . three-year projection and a lot of the guardrails that are established here” and that he “relied heavily on the fact that, although the PBMs are a required component of the WSIP, the Commission may identify and apply incentives or penalties.” *Id.* at 217-218. In response to concerns expressed by Chair Mitchell that opportunities need to be identified to reduce pressure on rates resulting from the costs the Company is incurring through the WSIP and her question whether the Company intended to find time to work with the Public Staff to develop PBMs, witness Becker proposed that if the Company and the Public Staff were able to come to an agreement, “maybe by the time we get into year two of the WSIP, those things can be established and identified and incorporated.” *Id.* at 223.

In response to a question from Commissioner Hughes about whether there could be PBMs that provide a more direct financial benefit to customers, witness Becker testified that customer would receive financial benefits in the form of rate caps in WSIP Rate Years 2 and 3. He also suggested the incorporation of conservation rates. *Id.* at 228.

When asked by Commissioner Brown-Bland what the Company’s position is on operational compliance metrics that focus only on health-based violations, witness Berger stated, “Our position on the health-based standards is that, when reviewing the rule, its says ‘safe, reliable drinking water. . . .Monitoring and reporting violations can result of actions that are not reflective of anything of Aqua’s wrongdoing.” *Id.* at 241. When asked whether the Company could come to an

agreement about a margin of error or reasonable amount of deviation in the Company's compliance rate, witness Berger stated, "Yeah. I think the concern with the Public Staff's recommendation was 100 percent compliance."

On March 30, 2023, the Public Staff filed Public Staff Supplemental WSIP Exhibit 7 which reflects modifications the Public Staff made to four of its recommended performance based metrics based on comments and questions from the Commission at the evidentiary hearing. The modified PBMs are Timely Completion of CIP Projects, Completion of CIP Projects on Budget, Safe Drinking Water Act Compliance, and Clean Water Act Compliance. As compared to the original exhibit, the Supplemental Exhibit reduces the penalties attached to the Timely Completion of CIP Projects and Completion of CIP Projects on Budget metrics and reduces the compliance level below which a penalty is assessed from 100% compliance to the Company's three year average rate of compliance with health-based standards.

Discussion and Conclusions

Based upon careful consideration of the entire record in this proceeding, the Commission concludes that it is reasonable, appropriate, and in the public interest to approve implementation of the Timely Completion of CIP Projects, Completion of CIP Projects on Budget, Safe Drinking Water Act Compliance, Safe Drinking Water Act Compliance, and Clean Water Act Compliance set out in Appendix B to this Order, in addition to the PBMs agreed to by the Stipulating Parties.

N.C.G.S. § 62-133.1B.(a) provides in pertinent part that a “Water and Sewer Investment Plan, as filed by a water or sewer utility, shall include performance-based metrics that benefit customers and ensure the provision of safe, reliable, and cost-effective service by the water or sewer utility.”

Commission Rule R1-17A(b)(1) provides the following definition:

“Performance-based metrics” shall mean standards to measure utility operations and management, including the management of capital investment projects, intended to benefit customers by ensuring the provision of safe, reliable, and cost-effective service by the utility. Metrics may also be standards that are intended to drive utility performance or support Commission policy goals provided that they benefit customers by ensuring the provision of safe, reliable, and cost-effective service. In establishing performance-based metrics, the Commission may consider, at a minimum, operational compliance, customer service, service reliability, and workplace health and safety. Performance-based metrics shall be clearly defined, measurable, and easily verified by stakeholders. The Commission may approve penalties or incentives based on the results of approved metrics. Some metrics may be tracking metrics with or without targets or benchmarks to measure utility achievement.

The Commission’s *Order Adopting Commission Rule R1-17A* issued in Docket No.

W-100, Sub 63 provides in pertinent parts as follows:

The Companies state that the intent of performance-based metrics under the WSIP Statute is to incentivize water and sewer utilities to continuously strive for better performance.

.....

Further, the Commission concludes that an incentive mechanism such as performance-based metrics should be accompanied with appropriate rewards and penalties to motivate a utility to act efficiently to achieve its approved performance-based metrics.

The Commission finds and concludes that there is nothing in the WSIP statute or Commission Rule R1-17A to suggest that a utility's initial WSIP Period should serve as a time to gather data to form the basis of PBMs, including incentives and penalties, to be adopted in the utility's subsequent WSIP. Further, the Company will enjoy the benefits of the WSIP during the first WSIP Period, so it is appropriate that the Company's customers likewise enjoy the benefits intended to be provided by PBMs, incentives, and penalties during Aqua's first WSIP Period. For these reasons, the Commission does not agree with Aqua's direct and rebuttal testimony that it is premature to implement penalties and incentives during this, its first WSIP.

Regarding the Public Staffs PBMs for Timely Completion of CIP Projects and Completion of CIP Projects on Budget set out in Public Staff Supplemental WSIP Exhibit 7, the Commission finds and concludes that the two PBMs, when implemented together, will ensure cost-effective service by spurring the Company to innovate to control costs while timely delivering on projects that benefit customers. While the Company asserted that failure to timely complete projects is typically not due to lack of proper Aqua project management, the delay in completion of the Wakefield iron and manganese filtration project addressed in the testimony of Public Staff witness Lucas suggests otherwise. Therefore, it is appropriate to implement the Public Staff's modified PBMs for Timely Completion of CIP Projects and Completion of CIP Projects on Budget.

The Public Staff's Safe Drinking Water Act Compliance and Clean Water Act Compliance metrics set out in Public Staff Supplemental WSIP Exhibit 7 will provide benefits customers in the form of safe and reliable service. The Public Staff's recommended PBMs address the Company's concerns that 100% compliance is an unreasonably high standard and that only violations of health-based standards should form the basis of PBMs. The PBMs also address the Company's assertion that PBMs should be based on historical data. It is appropriate to implement the Public Staff's modified PBMs for Safe Drinking Water Act Compliance and Clean Water Act Compliance

IT IS, THEREFORE, ORDERED as follows:

1. That the Stipulation between Aqua and the Public Staff is hereby approved in its entirety and is incorporated herein by reference.
2. That the exhibits to the Stipulation are admitted into evidence.
3. That all of the findings, conclusions, and decisions reflected in this Order are hereby affirmed and are so ordered for compliance purposes.
4. That the Commission considers neither the Stipulation filed on March 31, 2023, nor the parts of this Order pertaining to the contents thereof, as having precedential value with respect to future proceedings and the same shall not be cited, argued, or treated as such.

5. That, consistent with the Stipulation and this Order, Aqua shall be authorized to implement a WSIP;

6. That the Base Year and WSIP Rate Years 1, 2, and 3 revenue requirements set forth in Public Staff Settlement Exhibit 1 are approved.

7. That Aqua shall not be allowed to retroactively recover the revenue requirement before the date of this Order.

8. That the five percent cap in N.C.G.S. § 62-133.1B(c) shall be implemented on a per rate division basis as requested by Aqua.

9. That Aqua's rates during the term of the WSIP shall reflect an authorized return on equity of 9.3% and an authorized overall rate of return of 6.63%.

10. That, consistent with the Stipulation and this Order, a banding of authorized returns shall be established and used to credit customers with earnings above the high end of the applicable band.

11. That any incentives and/or penalties related to performance metrics ultimately approved by the Commission shall be retroactive to the beginning of WSIP Rate Year 1.

12. That Aqua is authorized to continue to use its bulk purchased water and sewer pass-through mechanisms.

13. That Aqua shall, during the term of its WSIP, suspend the use of the Water System Improvement Charge (WSIC) and the Sewer System Improvement Charge (SSIC). Consistent with Commission Rules R7-39(k) and R10-36(k), Aqua's WSIC and SSIC surcharges shall be reset to zero as of the effective date of the approved rates in this proceeding.

14. That Aqua shall be allowed to utilize the WSIC/SSIC mechanism after the WSIP plan period and that no WSIC/SSIC eligible projects included in the WSIP to be recovered through the WSIC/SSIC mechanism.

15. That, consistent with the Stipulation and this Order, Aqua is authorized to modify its Sewer Tariff to include a Sewer Use Rule.

16. That, consistent with the Stipulation and this Order, Aqua shall apply for State Revolving Fund grants to comply with the corresponding performance based metric.

17. That, consistent with the Stipulation and this Order, Aqua and the Public Staff shall mutually identify a third-party consulting firm that Aqua shall retain, with the goal of ensuring implementation of the multi-year components of the WSIP will benefit the using and consuming public and the Company. The consulting firm must be a competent, qualified, and independent consultant and all costs associated with the engagement will be borne by the Company.

18. Aqua shall notify the Commission within 14 days of retaining the consulting firm. Aqua shall grant sufficient access in a timely manner to allow the consulting firm to perform an independent assessment and complete its report related to the topics listed below. The Public Staff shall work with Aqua and the consultant to facilitate the completion of the assessment in no more than a 3-month timeframe after the consultant is chosen. Any recommendations that Aqua agrees to shall include timeframes for implementation. Upon conclusion of the engagement, Aqua shall file the consulting firm's report detailing its findings and recommendations with the Commission. Aqua shall also file a report addressing the timelines for implementation of the accepted consulting firm's recommendations. Aqua shall file a report on the implementation of such recommendations on a quarterly basis for one year after the date of the report addressing the timelines for implementation of the accepted consulting firm's recommendations.

19. An independent assessment shall be conducted of, and completion a report detailing its findings and recommendations related to, Aqua's operations and management in the following areas: Assessment of current Aqua staffing levels and organizational structure; Determination of whether anticipated Aqua staffing levels and structure are sufficient to fully and properly implement the WSIP; Succession planning to ensure continuity of WSIP operational and regulatory filing capabilities during workforce transitions throughout the WSIP period; Assurance of efficient information flow within the organization to facilitate timely decision

making and implementation of these decisions consistent with the WSIP objectives; Assurance of appropriate internal decision-making, managerial oversight, and accountability during WSIP implementation; Assurance of current training for current and future employees, cross-training, and back up support associated with the WSIP and meeting WSIP reporting obligations; and Assurance that the WSIP is implemented consistent with statutory and regulatory requirements

20. That, consistent with the Stipulation and this Order, Aqua shall file quarterly reports with the Commission that include: (1) the steps the Company has taken to modify its current system of verifying completion of plant to be used and useful; and (2) the following information about projects that the Company has manually entered into the plant accounting software beginning with Q4 2022: the total dollar amount of the plant, the original in-service date recorded by the system and the manually inserted in-service date entered by the Company, the calculation of AFUDC and corresponding entries to correct the overcollection of AFUDC by project, and the calculation of the depreciation expense differential caused by the override. The Company shall file the first report on the same date as it files the report for Q2 of WSIP Rate Year 1 and shall continue to file reports with each subsequent quarterly report through Q4 of Rate Year 3.

21. That, consistent with the Stipulation and this Order, Aqua shall file the 2018 Affiliate Interest Agreement in Docket No. W-218, Sub 570.

22. That, consistent with the Stipulation and this Order, regulatory conditions related to the pending restructure of Essential Utilities shall be addressed in Docket No. W-218, Sub 571.

23. That, consistent with the Stipulation and this Order, Aqua shall use its best efforts to communicate with the Public Staff, Commission, and other Class A water and sewer utilities regarding scheduling of future rate case filings in an effort to avoid pancaked filings going forward.

24. That within 30 days of this Order, but no later than 10 business days prior to the effective date of the new rates, Aqua shall file for Commission approval five copies of all rate schedules designed to comply with this Order, accompanied by calculations showing the revenues that will be produced by the rates for each schedule. This filing shall include a schedule comparing the revenue that would have been produced by the requested rates in the Company's application using the mutually agreeable billing determinants during the updated test period and Rate Years 1-3 with the revenue that will be produced under the schedules filed to produce the revenue requirement established by this Order. The Public Staff shall work with Aqua to ensure the rate schedules adhere to the rate design described in the Stipulation.

25. That Aqua shall submit proposed customer notices to the Commission for review and approval, and upon approval of the notices by the Commission, shall give appropriate notices of the approved rate increases by

mailing with sufficient postage or hand delivering the notices to all affected customers in each relevant service area, respectively, in conjunction with the next regularly scheduled billing process;

26. That Aqua shall file the attached Certificate of Service, properly signed and notarized, not later than 45 days after the issuance of this Order;

27. That all late-filed and supplemental exhibits filed by Aqua and the Public Staff in this docket are hereby admitted in evidence;

28. That the Chief Clerk shall establish Docket No. W-218, Sub 573A as the reporting requirement docket for Commission-required reports as ordered herein and also for WSIP filings.

29. That Aqua shall file all quarterly and annual reports required by N.C.G.S. § 62-133.1B.

30. That the Public Staff shall be permitted to audit the payroll and payroll-related costs associated with the open positions during the annual review and recommend for Commission approval adjustments to rates for Years 2 and 3 accordingly.

31. That the costs for all SIP and related projects included in the test year and proposed in WISP Rate Years 1-3 shall be excluded from this rate case. These costs shall be recorded in a regulatory asset account to be recovered in a future rate case, subject to being used and useful, with amortization beginning in

the same month expenses for the systems are incurred and amortized over a period of 15 years.

32. That the PFOS/PFOA projects proposed by Aqua are not appropriate for approval as part of the WSIP as modified by the Commission.

33. That the amount of utility plant-in-service for the Wakefield Filter project shall be decreased by 25% of \$857,797 resulting in a \$214,449 disallowance for this rate case.

34. That Aqua shall be subject to the performance-based metrics included in the Stipulation and the four additional performance-based metrics (and applicable incentives and penalties) recommended by the Public Staff.

35. That continuation of the Conservation Pilot Program, including the revenue reconciliation, approved in Docket No. W-218, Sub 526 is not just and reasonable and the Company's request to continue the Pilot through the end of the 2023 irrigation season is hereby denied. The Pilot is discontinued effective the date of this Order. Customers in the Arbor Bay, Bayleaf Master, Merion, and Pebble Bay water systems who participated in the Pilot shall be subject to the prevailing applicable Aqua uniform water rates. Aqua is allowed to continue to charge the currently approved Pilot surcharge through December 31, 2023.

36. That Aqua's request to establish a Customer Assistance Program is hereby denied.

37. That Aqua and the Public Staff shall continue to work together regarding the development of appropriate recommendations and solutions to improve secondary water quality as impacted by the levels of iron and manganese at the Company's affected water systems.

38. That the Public Staff and Aqua are required to file a written report with the Commission, on March 1 and September 1 each year in which the WSIP is in effect, on secondary quality concerns that are affecting its customers. If a particular secondary water quality concern has affected or is affecting 10% of the customers in an individual subdivision service area or 25 billing customers in an individual service area, whichever is less, the customers affected and the estimated expenditures that are necessary to eradicate to the extent practicable water quality issues related to iron and manganese shall be detailed in the written report. The written report shall also contain a recommendation as to whether the Commission should order Aqua to pursue such corrective action and an underlying reason why the action should or should not be undertaken. If there are no secondary water issues or if the secondary water quality issues are below the 10%/25 threshold previously set forth, Aqua and the Public Staff shall so inform the Commission.

39. That Aqua NC shall refund all partial, temporary rates and charges in excess of the final rates and charges found to be appropriate by the Commission, if any, in the Aqua NC Water, Aqua NC Sewer, and Brookwood Water Rate Divisions with interest at 10% compounded annually;

40. That Aqua NC shall file a refund plan for the excess partial, temporary rates and charges collected from the customers, if any, in the Aqua NC Water, Aqua NC Sewer, and Brookwood Water Rate Divisions within 30 days of the date of this Order and the Public Staff shall file a response to said refund plan no later than 60 days from the date of this Order;

41. That Aqua shall file with the Commission the Strategic Plan for Meter Data Management and Advanced Analytics; and

42. That the Chief Clerk shall close Docket No. W-218, Sub 526A.

ISSUED BY ORDER OF THE COMMISSION.

This the ___ day of _____, 2023.

NORTH CAROLINA UTILITIES COMMISSION

A. Shonta Dunston, Chief Clerk