

**PUBLIC STAFF
RESPONSE TO
AQUA NORTH CAROLINA, INC.
DATA REQUEST NO. 2 TO PUBLIC STAFF**

DOCKET NO. W-218, SUB 526

**DATE OF REQUEST: FRIDAY, MAY 29, 2020 (MODIFIED ON JUNE 1, 2020)
DATE OF RESPONSE: THURSDAY, JUNE 4, 2020**

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CONFIDENTIAL

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NOT CONFIDENTIAL

The individual making the response and responsible for the subject matter addressed in herein is Charles Junis, Engineer with the Water, Sewer, and Telephone Division of the Public Staff.

Subject of Data Request: Excess Capacity

Request:

1. In Aqua's review of the 15A NCAC 02T .0114, the Company could not locate a definition of REU. Please provide the exact administrative code that uses this term and its definition.

Response:

Residential equivalent unit (REU) is a common term to compare different customer types and is widely used to determine base facilities charges and connection fees. For the purposes of excess capacity, REUs is used to compare end of period customers (connected customers paying for recovery of the plant) and the capacity of the plant. The water design standard is 400 gallon/connection for a residential service, per 15A NCAC 18C .0409. The wastewater design standard is a "minimum volume of sewage from each dwelling unit shall be 240 gallons per day and each additional bedroom above two bedrooms shall increase the volume by 120 gallons per day," per 15A NCAC 02T .0114. It's our understanding there are exceptions to the rule for which Division of Water Resources has approved design capacity that is less than the requirement referenced above, and/or the preceding rule, for new construction and expansions of WWTPs. The design standards have additional requirements for other types of connections such as restaurants, hair salons, and churches, however, those have typically not been utilized when setting rates. With limited time to provide responses, an example is Hawthorne at the Greene, which was a negotiated rate structure approved by the Commission. The practice for ratemaking purposes has been the meter size is multiplied by a factor, see table below, for the calculation of base facilities charges and REUs.

Meter Size	AWWA Factor based on 5/8
5/8 inch	1.00
3/4 inch	1.50
1 inch	2.50
1-1/2 inch	5.00
2 inch	8.00
3 inch	15.00
4 inch	25.00
6 inch	50.00
8 inch	80.00
10 inch	115.00
12 inch	215.00

AWWA Manual M6 and Manual M1; WEF Manual of Practice 27.

Request:

2. Are 15A NCAC 02T .0114 design flow values based on average flows or peak daily flows?

Response:

Peak daily flows.

Request:

3. If 15A NCAC 02T .0114 is based on peak daily flow, would it be expected that average flows at a wastewater treatment plant would be significantly lower than the design rate?

Response:

The average flows at a wastewater treatment plant are dependent on the collection system and users tributary to that WWTP. On page 29 of its Sub 319 Order, the Commission states as follows:

The Commission considers that there is a fundamental flaw in utilizing the actual flow (whether it is maximum-daily flow, maximum monthly-average flow, annual-average flow, etc.) in the plant to compute a used and useful percentage of the plant. At different times (different rate cases for instance), the same number of REUs could produce different flows to the plant. At one time, the service area may be populated by families with several older children producing a high volume of water usage per REU and at a later time, the families may have matured with children having left home, leaving

behind a service area populated with empty nesters with a lower volume of water usage per REU. In this example, if the actual flow to the plant is used to compute used and useful plant, there would be a larger excess capacity adjustment in the latter rate case for the identical number of REUs connected to the plant. The Commission does not believe it would be appropriate to find that the plant is less used and useful because the demographics of the households changed over time (nor would it be appropriate to find the plant to be more used and useful if the flow increased over time without the number of REUs connected increasing).

On page 30, the Sub 319 Order states, "The Commission finds and concludes that the determination of excess capacity should be based upon the number of end-of-period REUs."

Request:

4. Per 15A NCAC 02T .0114, how many gallons per day are assigned to a four-bedroom dwelling unit?

Response:

480 gallons per day.

Request:

5. Per 15A NCAC 02T .0114, how many gallons per day are assigned to a five-bedroom dwelling unit?

Response:

600 gallons per day.

Request:

6. Per 15A NCAC 02T .0114, how many gallons per day are assigned to a one-bedroom dwelling unit?

Response:

240 gallons per day.

Request:

7. Does 15A NCAC 02T.0114 provide a schedule of design flows for other facilities such as nursing homes, supermarkets, and restaurants which are not based on bedrooms?

Response:

Yes. Please see the response to item 1 above.

Request:

8. What is the source of the Public Staff's expertise in conducting design wastewater treatment plant flows in accordance with 15A NCAC 02T .0114?

Response:

Public Staff engineer Junis worked primarily on water and wastewater system design and construction projects for an engineering consulting firm for two years. Public Staff attorney Grantmyre was the president of a water and wastewater utility for over 27 years.

Request:

9. Aqua questions whether the Public Staff's capacity calculations have been completed incorrectly for several rate cases. Does the Public Staff agree that the capacity calculations provided in Public Staff testimony in prior cases and in this case are not consistent with and in accordance with the North Carolina Administrative Code? If the Public Staff does not agree, please state why.

Response:

Since the issuance of the Commission's Order in Docket No. W-218, Sub 319, dated November 3, 2011, the excess capacity calculations have been calculated consistent with the Order. Prior calculations as proposed in the Sub 274 (agreed to in stipulation) and Sub 319, attempted to quantify maximum daily flow or peak monthly-average daily flow for comparison to the plant capacity. The North Carolina Administrative Code does not set standards for how to calculate excess capacity for the purpose of setting just and reasonable rates.

Request:

10. Did Aqua's response to DR 116 Q3 provide wastewater treatment plant design flow calculations for The Legacy wastewater treatment plant in accordance with 15A NCAC 02T .0114?

Response:

Yes, the 2005 permit language was provided which was based on a discrete set of assumptions.

Request:

11. 15A NCAC 02T .0114 is available to the public and was documented in the footnote to Junis testimony on Page 8 line 3. A specific calculation showing its use was provided to the Public Staff in the Company's response to DR 116 Q3. Does the Public Staff agree that the referenced calculation was completed in accordance with the regulation? If not, please explain your answer. If the Public Staff does agree that Aqua's calculation was correct, please explain why the Public Staff did not use it.

Response:

If in reference to the calculations provided regarding The Legacy and bedrooms, yes. However, Aqua did not provide any supporting documentation for the number of bedrooms utilized in its calculation. In addition, the Company has failed to show that these residential customers which it claims on average represent a design capacity demand of 150% of an REU are paying connection fees and monthly rates equivalent to 150% of an REU. The residential ANC Sewer rates are flat while the commercial rate is either per REU or volumetric. If a four-bedroom home pays the same flat rate as a three-bedroom home, it would be reasonable that the calculation of excess capacity for ratemaking would also quantify them as equivalent. On page 8, lines 1-6, of his testimony, Public Staff witness Junis states, "While I have considered utilizing 90% of the capacity⁷ as the denominator and end of period residential equivalent units (REUs) multiplied by 360 gallons per day⁸ as the numerator to be more consistent with DEQ regulations, these adjustments would net the exact same excess capacity adjustment percentages." The purpose of the excess capacity adjustment is to determine the portion of the plant that is used and useful to end of period customers and that customers are not unfairly paying for a disproportional share of the plant cost. The overbuilt plant cost is not appropriate for rate recovery because Aqua took on avoidable risk from developers.

Request:

12. Did Aqua's response to DR 116 Q3 indicate that the design flow for The Legacy is greater than 130,000 gallons per day?

Response:

Under the design assumptions listed, yes. Please see the Public Staff's response to item 11 above.

Request:

13. Does the Public Staff agree that, if the calculations are done in accordance with 15A NCAC 02T .0114, Carolina Meadows' design flow may be in excess of 400,000 gallons per day and that Westfall's design flow may be in excess of 88,000 gallons per day? If the Public Staff does not agree, please explain your answer.

Response:

The Public Staff objects to this question, as it calls for undue speculation regarding calculations on which the Public Staff has not been afforded the opportunity to conduct appropriate discovery. Notwithstanding, but subject to the above stated objection, the Public Staff notes that the June 1, 2020, calculations are essentially a supplement to the Company's application and direct testimony that is subject to discovery. Therefore the Company should address this subject matter in its rebuttal testimony or it will need to provide the following information for the Public Staff to provide any additional response:

1. Please provide a detailed explanation of how the Company determined the number of bedrooms of the homes that it surveyed.
2. Please provide the number of REUs quantified in the Company's response to Public Staff Data Request No. 49 associated with each commercial customer and groups of residential customers listed in the June 1, 2020, calculations. In addition, please provide the number of active and inactive REUs separately.
3. Please provide the Company's criteria for a customer/connection/REU to be considered active versus inactive.
4. For March 2020, please provide the wastewater utility service rate charged to each commercial customer and groups of residential customers listed in the June 1, 2020, calculations.
5. Please provide a copy of all authorization to construct permits, with associated design flow calculations from the application, issued by NCDEQ for the construction and/or expansion of the Carolina Meadows, The Legacy, and Westfall WWTPs.
6. For Camden Apartments, please provide the billing ledger for the 12-month periods ending September 30, 2019 and March 31, 2020.

Request:

14. At a design flow of more than 400,000 gallons per day for Carolina Meadows, more than 88,000 gallons per day for Westfall, and more than 130,000 gallons per day for The Legacy, would excess capacity charges be appropriate?

Response:

Please see the response to item 13 above.