

**CLARKE UTILITIES, INC.
DOCKET NO. W-1205, SUB 14**

**TESTIMONY OF GINA Y. CASSELBERRY
ON BEHALF OF THE PUBLIC STAFF
NORTH CAROLINA UTILITIES COMMISSION**

June 21, 2021

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

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

7 **Q. BRIEFLY STATE YOUR QUALIFICATIONS AND EXPERIENCE**
8 **RELATING TO YOUR PRESENT POSITION WITH THE PUBLIC**
9 **STAFF.**

10 A. I graduated from Michigan Technology University receiving a Bachelor
11 of Science Degree in Civil Engineering. I have been with the Public
12 Staff's Water Division since February, 1992. I have presented
13 recommendations in rate increase proceedings, new franchise and
14 transfer applications, and other matters before the North Carolina
15 Utilities Commission (Commission) for the past twenty-nine years.

16 **Q. WHAT ARE YOUR DUTIES IN YOUR PRESENT POSITION?**

17 A. My duties with the Public Staff are to monitor the operations of
18 regulated water and sewer utilities with regard to service and rates.

1 Included in these duties are field investigations to review, evaluate, and
2 recommend changes, when needed, in the design, construction, and
3 operations of regulated water and sewer utilities; presentation of expert
4 testimony in formal hearings; and presentation of information, data,
5 and recommendations to the Commission.

6 **Q. PLEASE DESCRIBE THE SCOPE OF YOUR INVESTIGATION IN**
7 **THIS CASE.**

8 A. On March 22, 2021, Clarke Utilities, Inc. (Clarke) filed an application
9 with the Commission to increase its rates for providing water and sewer
10 utility service in all of its service areas in Franklin, Granville, and Wake
11 Counties, North Carolina. My investigation included review of customer
12 complaints, contact with the Public Water Supply Section (PWSS) and
13 Water Quality Section (WQ) of the North Carolina Department of
14 Environmental Quality's Division of Water Resources (DWR), review
15 of company records, analysis of revenues at existing and proposed
16 rates, and a site inspection. I have also assisted Public Staff
17 Accountant Charles Akpom in reviewing expenses and plant in service.

18 **Q. WHAT IS THE PUBLIC STAFF'S POSITION REGARDING THE**
19 **CLARKE'S TEST YEAR?**

20 A. It is the Public Staff's position that the test year ending December 31,
21 2019, which was filed by Clarke, is out dated and does not reflect
22 customer growth and new plant in service. Therefore, the Public Staff
23 updated the end of the test year to the 12-month period ending

1 December 31, 2020. Revenues calculated at present and proposed
 2 rates reflect actual customers at the end of the test-year period,
 3 December 31, 2020, and plant serving them.

4 **Q. PLEASE DESCRIBE CLARKE’S SERVICE AREAS.**

5 A. Clarke provides water utility service to the following six service areas
 6 near Garner, Knightdale, and Wake Forest: Deerchase, Whippoorwill
 7 Valley, Millstone, Harrison Ridge (Beau Pre’), Glenn Creek, and
 8 Sweetwater. Sewer treatment service is provided in two service
 9 areas near Wake Forest: Deerchase and Whippoorwill Valley. The
 10 combined water systems consist of thirteen wells, seven
 11 hydropneumatic tanks, well houses, treatment buildings, a central
 12 water softener system in Glen Creek, distribution lines, and other
 13 related appurtenances. The wastewater systems consists of two
 14 50,000 gallon per day wastewater treatment plants (WWTP), one lift
 15 station, collection systems, and other related appurtenances.

16 **Q. WHAT ARE THE CLARKE’S PRESENT AND PROPOSED**
 17 **RATES?**

18 A. Clarke’s present and proposed rates for water and sewer utility
 19 service are shown below:

	<u>Present</u> <u>Rates</u>	<u>Proposed</u> <u>Rates</u>
20 <u>Monthly Metered Water Rates:</u>		
21		
22		
23 Based Charge, zero usage		
24 < 1” meter	\$ 12.68	\$ 17.48

1	1" meter	\$ 31.69	\$ 43.70
2	1.5" meter	\$ 63.37	\$ 87.40
3	2" meter	\$101.40	\$139.84

4	Usage charge, per 1,000 gallons	\$ 2.49	\$ 3.50
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5 Monthly Metered Sewer Rates:

6	Based Charge, zero usage			
7	< 1" meter	\$ 25.58	\$ 32.10	
8	1" meter	\$ 63.92	\$ 80.25	
9	1.5" meter	\$127.84	\$160.50	
10	2" meter	\$204.56	\$256.80	

11	Richland Community Church	\$204.56	\$256.80
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12	Usage charge, per 1,000 gallons	\$ 2.88	\$ 3.60
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13 The proposed rates would increase the average residential bill for
 14 water utility service from \$25.44 to \$35.41, an increase of 39.19
 15 percent based on an average usage of 5,123 gallons; and would
 16 increase the average residential bill for sewer utility service from
 17 \$40.99 to \$51.36, an increase of 25.30 percent based on an average
 18 usage of 5,350 gallons.

19 **Q. HAVE YOU REVIEWED THE OPERATIONAL STATUS OF THE**
 20 **WATER AND SEWER SYSTEMS WITH PWSS AND DWR?**

21 A. Yes. I contacted the Raleigh Regional Office. Regional office
 22 personnel expressed no concerns with water quality or the operation
 23 of the water or sewer systems. On June 10, 2021, I inspected the six
 24 water systems and the two WWTPs with Mr. Joel Clarke, President
 25 of Clarke Utilities. The water systems were in good condition. All of
 26 the chemical feed pumps used for treatment were operating and the

1 containers were at an appropriate level. The well houses, treatment
2 buildings, and the exteriors of the seven hydro-tanks were in good
3 condition. The well lots were maintained and recently mowed. The
4 WWTPs in Deerchase and Whippoorwill were in good condition. I did
5 not notice anything unusual about the operation of the plant nor did I
6 detect any odor at either WWTP. It is the Public Staff's opinion that
7 the water and sewer systems are adequately maintained and
8 operating properly.

9 **Q. HAVE YOU RECEIVED ANY CUSTOMER COMPLAINTS AS A**
10 **RESULT OF CUSTOMER NOTICE IN THIS PROCEEDING?**

11 A. No. As of June 21, 2021, the Public Staff has not received any written
12 complaints in regard to service or water quality, nor did any public
13 witness sign up for the customer hearing scheduled on June 17,
14 2021. It is the Public Staff's opinion that Clarke provides very good
15 service for customers. On June 14, 2021, the Commission issued an
16 Order cancelling the public hearing.

17 **Q. BRIEFLY DESCRIBE YOUR BILLING ANALYSIS.**

18 A. As I previously testified, the end of the test year period was updated
19 to the 12-month period ending December 31, 2020. I reviewed the
20 number of customers and monthly consumption for each month for
21 water and sewer based on the updated billing data provided by
22 Clarke. I determined there are 593 end-of-period (EOP) metered

1 residential water customers and 310 residential and 2 commercial
2 EOP metered sewer customers.

3 **Q. WHAT IS YOUR RECOMMENDATION REGARDING CUSTOMER**
4 **GROWTH?**

5 A. I do not recommend a customer growth factor (CGF) for sewer utility
6 service because there was no growth in the last two years. I
7 recommend a CGF of 1.0662 for water utility service. The CGF reflects
8 growth for the period of January 1, 2019 through December 31, 2020.
9 My calculations are shown below:

10 Water Service

11 593 EOP customers x 24 months/13,348 total bills = 1.0662

12 Sewer Service

13 312 EOP customers x 24 months/7488 total bills = 1.000

14 I recommend applying the CGF of 1.0662 to chemical expenses,
15 purchased power, and consumption for water operations.

16 **Q. HAVE YOU RECOMMENDED ANY ADJUSTMENTS TO**
17 **EXPENSES RELATED TO WATER AND SEWER OPERATIONS?**

18 A. Yes, I have provided Public Staff Accountant Akpom with
19 recommendations for four adjustments for water operations:
20 maintenance and repair expenses, chemical expenses, purchased
21 power for water operations, and testing expenses. I recommended one
22 adjustment to sewer operations: testing expenses.

1 MAINTENANCE AND REPAIR EXPENSES

2 Water

3 Clarke expensed \$20,959 for maintenance and repairs associated with
4 water operations. I reclassified \$593 for residential water meters from
5 maintenance and repair expenses to plant in service. I recommend
6 \$20,366 for maintenance and repairs associated with water
7 operations.

8 CHEMICAL EXPENSES

9 Water

10 Clarke allocated \$12,306 for chemicals used in water treatment, based
11 on a two year average. Based on my review of invoices, I agree with
12 Clarke. I adjusted the \$12,306 for customer growth ($\$12,306 \times 1.0662$).
13 I recommend \$13,121 for chemical expenses used in water treatment.

14 PURCHASED POWER

15 Water

16 Clarke added two wells in 2019: one in Glen Creek and one in
17 Sweetwater. Clarke made a proforma adjustment of \$571 to annualize
18 purchased power over a twelve-month period for the two additional
19 wells, resulting in purchased power costs of \$16,380. I agree with the
20 Clarke's proforma adjustment and adjusted the amount for customer
21 growth ($\$16,380 \times 1.0662$). I recommend \$17,464 for purchased power
22 associated with water production.

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TESTING EXPENSES

Water

My recommendation for testing expenses reflects current testing costs, represented over the required frequency (monthly, annually, and every three, six, or nine years) for each test under the Safe Drinking Water Act. I recommend testing expenses of \$8,089 for water operations. My calculations are shown in Casselberry Exhibit No. 1.

Sewer

My recommendation for testing expenses reflects current testing costs, represented over the required frequency (weekly, monthly, and annually) for each WWTP. I recommend testing expenses of \$20,085 for sewer operations. My calculations are shown in Casselberry Exhibit No. 2.

Q. HAVE YOU MADE ANY RECOMMENDATIONS REGARDING PLANT IN SERVICE?

A. Yes. As I previously testified, I reclassified \$593 for residential water meters from maintenance and repair expenses to plant in service for water operations. I recommend a useful life of 20 years.

Q. WHAT ARE THE ANNUAL SERVICE REVENUES UNDER PRESENT AND PROPOSED RATES?

- 1 A. My calculations for service revenues at present and proposed rates
2 are shown below:

3 Water Utility Service

4 Consumption adjusted for customer growth:

5 $35,392,983 \text{ gallons} \times 1.0662 = 37,735,998$

6 Revenue at Present Rates Adjusted for Customer Growth:

7	<1 inch	589 EOP x \$12.68 x 12 months	\$ 89,622
8	1 inch	4 EOP x \$31.69 x 12 months	\$ 1,521
9		37,735,998 gallons x \$2.49/1,000 gallons	<u>\$ 93,963</u>
10			\$185,106

11 Revenue at Proposed Rates Adjusted for Customer Growth:

12	<1 inch	589 EOP x \$17.48 x 12 months	\$123,549
13	1 inch	4 EOP x \$43.70 x 12 months	\$ 2,098
14		37,735,998 gallons x \$3.50/1,000 gallons	<u>\$132,076</u>
15			\$ 257,723

16 Sewer Utility Service

17 Revenue at Present Rates:

18	<1 inch	307 EOP x \$ 25.58 x 12 months	\$ 94,237
19	1 inch	3 EOP x \$ 63.92 x 12 months	\$ 2,301
20	2 inch	2 EOP x \$204.56 x 12 months	\$ 4,909
21		20,009,010 gallons x \$2.88/1,000 gallons	<u>\$ 57,626</u>
22			\$159,073

23 Revenue at Proposed Rates:

24	<1 inch	307 EOP x \$ 32.10 x 12 months	\$118,256
25	1 inch	3 EOP x \$ 80.25 x 12 months	\$ 2,889
26	2 inch	2 EOP x \$256.80 x 12 months	\$ 6,163
27		20,009,010 gallons x \$3.60/1,000 gallons	<u>\$ 72,032</u>
28			\$199,340

- 29 **Q. WHAT IS YOUR RECOMMENDATION CONCERNING CLARKE'S**
30 **PROPOSED RATES?**

1 A. The Public Staff's recommended service revenues are listed below:

2 Service Revenues:

3 Water \$222,625

4 Sewer \$199,340

5 The Public Staff recommends a partial rate increase for water utility
6 service and agrees with Clarke's proposed rates for sewer utility
7 service.

8 **Q. PLEASE DESCRIBE YOUR RATE DESIGN AND RECOMMENDED**
9 **RATES FOR WATER SERVICE?**

10 A. Under Clarke's current rates, the split between water usage and the
11 base charge is 50:50. I recommend that the split remain the same.
12 Clarke is a small utility company with limited cash flow. Maintaining a
13 50:50 split will provide a reasonable level of revenue under the base
14 charge to cover the monthly fixed costs and promote conservation. My
15 calculations are shown below.

16 Water Utility Service

17	Residential equivalent units (REUs)		
18	< 1 inch	589 EOP x 1 REU	= 589
19	1 inch	4 EOP x 2.5 REUs	= <u>10</u>
20	Total		599

21	Service revenue	\$222,625
22	50.0%	\$111,313
23	Difference	\$111,312

1 Estimated base charge:
2 \$111,313/599 REUs x 12 months = \$15.49
3 Estimated usage charge:
4 \$111,312/37,735,998 gallons x 1,000 = \$2.95

4 Revenue at Public Staff's Recommended Rates:

5	<1 inch	589 EOP x \$15.50 x 12 months	\$109,554
6	1 inch	4 EOP x \$38.75 x 12 months	\$ 1,860
7		37,735,998 gallons x \$2.95/1,000 gallons	<u>\$111,321</u>
8			\$222,735

9 Clarke's present and proposed water and sewer rates and the Public
10 Staff's recommended rates are shown on Casselberry Exhibit No. 3.

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

12 A. Yes.

Clarke Utilities, Inc.
 Docket No. W-1205, Sub 14
 Test Year Ending December 31, 2020

Casselberry
 Exhibit No. 1

	Water Testing	Required	Frequency	Factor	Cost per Test	Annual Cost
System Test	Coliform	6	Monthly	12.0000	\$ 25.00	\$ 1,800.00
	Asbestos	6	1 per 9 years	0.1111	\$ 183.00	\$ 121.99
	THM & HAA5	4	1 per 3 years	0.3333	\$ 209.00	\$ 278.64
	THM & HAA5	2	1 per year	1.0000	\$ 209.00	\$ 418.00
	Lead & Copper	35	1 per 3 years	0.3333	\$ 33.00	\$ 384.96
Entry Point Tests	Inorganics/Secondary	10	1 per 3 years	0.3333	\$ 275.00	\$ 916.58
	Nitrate	10	1 per year	1.0000	\$ 30.00	\$ 300.00
	VOCs	3	1 per year	1.0000	\$ 143.00	\$ 429.00
	VOCs	7	1 per 3 years	0.3333	\$ 143.00	\$ 333.63
	SOC/Pesticides	10	1 per 3 years	0.3333	\$ 835.00	\$ 2,783.06
	Gross Alpha	3	1 per 6 Years	0.1667	\$ 55.00	\$ 27.51
	Gross Alpha	7	1 per 9 years	0.1111	\$ 55.00	\$ 42.77
	Combined Uranium	8	1 per 6 Years	0.1667	\$ 50.00	\$ 66.68
	Combined Uranium	2	1 per 9 years	0.1111	\$ 50.00	\$ 11.11
	Combined Radium (226/228)	7	1 per 6 Years	0.1667	\$ 90.00	\$ 105.02
	Combined Radium (226/228)	7	1 per 9 years	0.1111	\$ 90.00	\$ 69.99
	Total					

Clarke Utilities, Inc.
 Docket No. W-1205, Sub 14
 Test Year Ending December 31, 2020

Casselberry
 Exhibit No. 2
 Page 1 of 1

Wastewater Testing		# of Samples Required	Frequency	Tests per Year	Cost per Year	Annual Cost
Deerchase	BOD	1	Weekly	52	\$ 28.00	\$ 1,456.00
	Total Suspended Solids (TSS)	1	Weekly	52	\$ 16.00	\$ 832.00
	NH3 as N	1	Weekly	52	\$ 20.00	\$ 1,040.00
	Fecal Coliform	3	Weekly	156	\$ 22.00	\$ 3,432.00
	Total Kjeldahl Nitrogen (TKN)	2	Weekly	24	\$ 25.00	\$ 600.00
	Nitrate, Nitrite Nitrogen	2	Weekly	24	\$ 20.00	\$ 480.00
	Phosphorus, Total (as P)	2	Monthly	24	\$ 25.00	\$ 600.00
	Chronic Toxicity	1	Quarterly	4	\$ 430.00	\$ 1,720.00
	Additional Testing					
	Chronic Toxicity	1			\$ 975.00	\$ 975.00
	Biosolids Test Package	1			\$ 775.00	\$ 775.00
Sludge Testing	1			\$ 624.00	\$ 624.00	
Whipoorwill	BOD	1	Weekly	52	\$ 28.00	\$ 1,456.00
	Total Suspended Solids (TSS)	1	Weekly	52	\$ 16.00	\$ 832.00
	NH3 as N	1	Weekly	52	\$ 20.00	\$ 1,040.00
	Fecal Coliform	1	Weekly	52	\$ 22.00	\$ 1,144.00
	Total Kjeldahl Nitrogen (TKN)	2	Weekly	24	\$ 25.00	\$ 600.00
	Nitrate, Nitrite Nitrogen	2	Weekly	24	\$ 20.00	\$ 480.00
	Phosphorus, Total (as P)	2	Monthly	24	\$ 25.00	\$ 600.00
	Additional Testing					
	Biosolids Test Package	1			\$ 775.00	\$ 775.00
	Sludge Testing	1			\$ 624.00	\$ 624.00
	Total					

The City of Raleigh's discharge permit and Granvill Farms' permit is included in permits and fees

Clarke Utilities, Inc.
 Docket No. W-1205, Sub 14
 Test Year Ending December 31, 2020

Casselberry
 Exhibit No. 3

Clarke Utilities Present and Proposed Rates and the Public Staff's Recommend Rates

Water Utility Service

	Clarke's Present <u>Rates</u>	Clarke's Proposed <u>Rates</u>	Public Staff's Recommended <u>Rates</u>
<u>Monthly Metered Water Rates:</u>			
Base charge, zero usage			
< 1" meter	\$ 12.68	\$ 17.48	\$ 15.50
1" meter	\$ 31.69	\$ 43.70	\$ 38.75
1.5" meter	\$ 63.37	\$ 87.40	\$ 77.50
2" meter	\$101.40	\$139.84	\$124.00
Usage charge, per 1,000 gallons	\$ 2.49	\$ 3.50	\$ 2.95
Average bill (average usage: 5,123 gallons)	\$ 25.44	\$ 35.41	\$ 30.61
Percent increase		39.19%	20.32%

Sewer Utility Service

	Clarke's Present <u>Rates</u>	Clarke's Proposed <u>Rates</u>	Public Staff's Recommended <u>Rates</u>
<u>Monthly Metered Sewer Rates:</u>			
Base charge, zero usage			
< 1" meter	\$ 25.58	\$ 32.10	\$ 32.10
1" meter	\$ 63.92	\$ 80.25	\$ 80.25
1.5" meter	\$127.84	\$160.50	\$160.50
2" meter	\$204.56	\$256.80	\$256.80
Richland Community Church	\$204.56	\$256.80	\$256.80
Usage charge, per 1,000 gallons	\$ 2.88	\$ 3.60	\$ 3.60
Average bill (average usage: 5,350 gallons)	\$ 40.99	\$ 51.36	\$ 51.36
Percent increase		25.30%	25.30%