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December 22, 2022

Ms. A. Shonta Dunston
Chief Clerk
N.C. Utilities Commission
430 N. Salisbury Street, Room 5063
Raleigh, NC 27603

**Re: *New River Light and Power Company
Direct Testimony and Exhibits of Edmond C. Miller
Docket No. E-34, Sub 54***

Dear Ms. Dunston:

Attached hereto, on behalf of New River Light and Power Company, are the Direct Testimony and Exhibits of Edmond C. Miller to be filed in the above-referenced rate case docket.

If you have any questions concerning this filing, or exhibits thereto, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink that reads 'M. Gray Styers, Jr.'.

M. Gray Styers, Jr.

cc: Mr. David T. Drooz
Mr. Randall E. Halley
Mr. Edmond C. Miller
Mr. Zeke Creech, NC Utilities Commission Public Staff
Ms. Jessica Heironimus, NC Utilities Commission Public Staff
Ms. Jennifer Harrod, NC Utilities Commission Staff

**APPALACHIAN STATE UNIVERSITY
DBA NEW RIVER LIGHT AND POWER COMPANY
DOCKET NO. E-34, SUB 54**

DIRECT TESTIMONY OF EDMOND MILLER

**ON BEHALF OF
APPALACHIAN STATE UNIVERSITY
DBA NEW RIVER LIGHT AND POWER COMPANY**

DECEMBER 22, 2022

1 **Q: PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.**

2 **A:** My name is Edmond C. Miller. I am the General Manager of New River Light and
3 Power Company (“NRLP”), which is an operating unit of Appalachian State
4 University (“ASU”). My business address is 146 Faculty Street Extension, Boone,
5 North Carolina 28607.

6

7 **Q: DO YOU HOLD ANY PROFESSIONAL REGISTRATIONS?**

8 **A:** Yes. I am a registered professional engineer in the States of North Carolina and
9 South Carolina.

10

11 **Q: WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
12 **PROCEEDING?**

13

14 **A:** The purpose of my testimony is to provide an overview of NRLP along with key
15 facts leading to the need for the rate increase requested in this proceeding.

16

1 **Q: PLEASE EXPLAIN THE STRUCTURE OF NRLP IN RELATION TO**
2 **ASU.**

3 **A:** NRLP was started in 1915 by Dr. Blanford Dougherty, President of the
4 Appalachian Training School (now ASU), who commissioned the building of
5 Boone's first electric generating plant. NRLP has been serving Appalachian State
6 University and the Town of Boone since that time. NRLP is an operating unit of
7 ASU. NRLP maintains a staff of 31 employees, including both administrative and
8 operating personnel. Other services required to operate the utility are provided by
9 ASU. These services include legal, human resources, information technology, and
10 administrative supervision (facilities management and financial services).

11
12 While ASU owns NRLP, it is also the largest consumer of power on the NRLP
13 system. NRLP also serves other customers in the Town of Boone.

14 As a utility serving the public, in addition to ASU, NRLP is subject to regulation
15 of its rates and service by the North Carolina Utilities Commission ("NCUC").
16 NRLP submits reports and updates of its Purchased Power Adjustment ("PPA")
17 and must receive NCUC approval for any changes in its base rates.

18

19 **Q: HOW DOES NRLP COMPARE TO OTHER UTILITIES IN THE STATE**
20 **OF NORTH CAROLINA?**

21 **A:** NRLP is similar to a number of municipal utilities in the State, serving primarily
22 residential and commercial load, but only limited large commercial load, in and
23 around a single municipality. Like many municipal systems, NRLP is distribution-

1 only. ASU made up approximately 21.8% of energy use on the NRLP system in
2 2021. NRLP has a total of 8,882 metered customers and had a peak load of
3 approximately 43.9 MW in 2021.

4
5 Key performance reliability indicators are significantly more favorable than other
6 utilities in the state, including the System Average Interruption Duration Index
7 (“SAIDI”) and System Average Interruption Frequency (“SAIFI”). Exhibit EM-1
8 provides a summary comparison of these reliability indicators.

9
10 NRLP’s rates are also favorable when compared to other utilities in the State. Each
11 year, the United States Department of Energy, Energy Information Administration
12 (“EIA”) publishes a comparison of rates for utilities in the state. For the last two
13 years, NRLP has been shown to have the lowest residential rates in the state. NRLP
14 has historically maintained a status of one of lowest cost providers based on the
15 EIA analyses. Based on 2021 EIA data, NRLP was the lowest cost provider for
16 residential consumers in North Carolina. This comparison is shown in Exhibit EM-
17 2.

18
19 While NRLP compares favorably to other utilities in the State, it also has significant
20 differences that create challenges in its operations.

21
22 **Q: WHAT ARE THE SIGNIFICANT DIFFERENCES BETWEEN NRLP AND**
23 **OTHER UTILITIES IN THE STATE?**

1 **A:** While NRLP is significantly smaller than investor-owned utilities in the State, it is
2 one of only two state-run electric utilities that is subject to NCUC regulation.
3 Municipal and cooperative electric systems, which are more comparable in size and
4 operations, are not subject to NCUC regulation. While this, in and of itself, is not
5 problematic, the regulatory process creates a significant lag in cost recovery,
6 particularly with respect to obtaining approval for necessary rate increases.

7

8 Another significant difference is the isolation of NRLP on the transmission grid.
9 While most utilities in the State are directly interconnected with a transmission-
10 providing investor-owned electric utility, NRLP is isolated and is only
11 interconnected with Blue Ridge Electric Membership Corporation (“BREMCO”).
12 NRLP has negotiated a new wholesale power supply arrangement with a merchant
13 plant generator. That power will be delivered to NRLP through transmission lines
14 of Duke Energy Carolinas, LLC, and then through BREMCO lines. As a result of
15 this new wholesale power supply arrangement, NRLP negotiated an unbundled
16 transmission rate with BREMCO.

17

18 **Q: WHEN WAS NRLP’S LAST BASE RATE CASE BEFORE THE NORTH**
19 **CAROLINA UTILITIES COMMISSION?**

20 **A:** While NRLP files annual updates to its PPA, its last filing to change base rates was
21 made in 2017. That case was NCUC Docket E-34, Sub 46.

22

1 **Q: WHAT ARE SOME OF THE FACTORS THAT HAVE LED TO THE NEED**
2 **FOR A BASE RATE INCREASE AT THIS TIME?**

3 **A:** Since the last rate case, several factors have combined to necessitate NRLP's
4 request for a base rate increase at this time.

5 1) Capital Infrastructure Investments - NRLP has invested in advancing
6 technology and upgrades for its system. Some of the major projects include:

7 a. The construction of a new campus substation. This new substation was
8 required due to upgrades BREMCO made to their transmission system.
9 BREMCO has been replacing its older 44 kV systems with 100 kV
10 lines. For NRLP to continue to receive power at the ASU campus
11 delivery point, it was necessary to replace this substation with 100 kV
12 equipment;

13 b. Purchase and installation of a new supervisory control and data
14 acquisition system ("SCADA"). The previous SCADA system was
15 outdated and would not work with NRLP's new AMI system;

16 c. Replacement of overhead distribution lines with an underground
17 system in residential areas experiencing higher than average outages
18 due to tree canopies and wildlife;

19 d. Renovation and expansion of NRLP's warehouse office building to
20 provide additional space for the new AMI metering shop and office
21 space for field staff. Modifications were also made to comply with
22 ADA standards and provide heating and air conditioning to workspaces
23 that previously had no environmental controls; and

1 e. Rebuilding NRLP's laydown yard used for storing of large inventory
2 items such as poles and transformers. This was a complete rebuild of
3 previous structures that had reached the end of their useful lives

4 2) Unrelated Business Income Tax ("UBIT") – Based on a 2019 KPMG audit for
5 ASU, it was determined that NRLP should pay income tax on electric revenues
6 received from retail customers other than ASU and the Town of Boone. This
7 is a new expense that was not accounted for in NRLP's 2017 rate case.
8 Therefore, base rates need to be adjusted to recover this tax expense.

9 3) Increased Purchased Power Costs - Due to the extraordinarily volatile natural
10 gas market within the past year, NRLP has incurred drastic increases in its
11 purchased power costs. These increases have caused significant cash flow
12 issues for NRLP. This year's increase in natural gas costs required NRLP to
13 file a midyear PPA to assist with some of the additional purchased power costs.
14 NRLP also had to take a \$7 million line of credit to cover the remaining cash
15 flow issues for this year. Correcting the amount of purchased power costs
16 recovered through base rates will relieve some of this cash flow issue.

17 4) Inflation and Salary Increases – NRLP has also experienced increased costs in
18 its operations, including three rounds of salary increases for its employees
19 necessary for recruiting and retention.

20

21 **Q: WILL NRLP OFFER A NET BILLING RATE FOR ITS CUSTOMERS**
22 **WITH SOLAR GENERATION?**

1 **A:** Yes. NRLP is proposing a Net Billing Rate for its retail customers that would allow
2 any excess energy generated to be placed back on NRLP’s distribution system.
3 This proposed Net Billing Rate was developed based on the criteria established in
4 N.C.G.S. § 62-126.4.

6 **Q: WILL NRLP OFFER A TIME OF USE RATE FOR ITS CUSTOMERS?**

7 **A:** Not at this time, but NRLP is seriously considering the option of a time of use rate
8 for its residential customers in the near future. The intent would be to offer capacity
9 and energy charges at different times of the day that correspond with NRLP’s
10 purchased power costs. This will require more extensive use of NRLP’s AMI
11 metering and billing system than is currently possible. NRLP will focus on
12 developing the necessary functionality over the next two years, and after that will
13 be able to propose a time of use rate.

15 **Q: PLEASE INTRODUCE NRLP’S OTHER WITNESS IN THIS**
16 **PROCEEDING.**

17 **A:** NRLP’s other witness is Mr. Randall Halley of Summit Utility Advisors, Inc.
18 (“Summit”). Mr. Halley addresses NRLP’s revenue requirements, rate of return,
19 cost of service, and rate design.

21 **Q: DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

22 **A:** Yes, it does.

23

Reliability Indices (2021)						
Utility	Agency	Customers (2021 EIA-861)	SAIDI w/o MED (minutes)	SAIDI w/ MED (minutes)	SAIFI w/o MED	SAIFI w/ MED
Dominion	IOU	124,323	102.00	115.00	1.030	1.110
Duke Carolinas	IOU	2,129,502	154.00	259.00	1.100	1.250
Duke Progress	IOU	1,472,018	125.00	211.00	1.160	1.270
Albemarle Electric Member Corp	COOP	12,980	103.50	282.80	1.248	1.784
Blue Ridge Elec Member Corp	COOP	77,169	62.28	88.73	0.898	1.036
Cape Hatteras Elec Member Corp	COOP	7,814	249.99	2621.59	3.470	14.430
Central Electric Membership Corp.	COOP	23,597	113.276	150.818		
Edgecombe-Martin County E M C	COOP	11,525	96.239	96.239	0.943	0.943
Four County Elec Member Corp	COOP	33,603	61.85	61.85		
French Broad EMC	COOP	39,680		143.51		1.02
Halifax Electric Member Corp	COOP	10,595	206.73	206.73	1.655	1.655
Haywood Electric Member Corp	COOP	27,924	460.077	585.589	3.245	3.628
Jones-Onslow Elec Member Corp	COOP	78,024		66.98		0.92
Lumbee River Elec Member Corp	COOP	63,543	80.73	141.306	1.069	1.407
Mountain Electric Coop, Inc	COOP	19,404	198.00	198.00	1.780	1.780
Pee Dee Electric Member Corp	COOP	21,462	135.93	135.93	1.867	1.867
Piedmont Electric Member Corp	COOP	33,289	121.209	628.594	1.029	1.66
Randolph Electric Member Corp	COOP	32,797	83.341	93.994	1.402	1.494
Roanoke Electric Member Corp	COOP	13,657	106.095	183.765	0.887	1.195
Rutherford Elec Member Corp	COOP	73,781	62.69	99.346	0.61	0.851
South River Elec Member Corp	COOP	46,273	50.22	50.88		
Surry-Yadkin Elec Member Corp	COOP	27,694	166.2	261.083	0.78	1.78
Tideland Electric Member Corp	COOP	22,930	136.04	185.82	1.509	1.701
Union Electric Membership Corp	COOP	80,287	62	79.77	0.743	0.936
Tri-County Electric Member Corp	COOP	25,914	131.87	163.14	1.25	1.45
Wake Electric Membership Corp	COOP	50,389	67.6	93.3	0.79	1.138
EnergyUnited Elec Member Corp	COOP	132,247	84.24	126.3	0.901	1.038
Brunswick Electric Member Corp	COOP	99,853	31.533	163.337	0.704	1.381
Apex	NCEMPA	26,400	41.73		0.651	1.267
Ayden	NCEMPA	4,219				
Belhaven	NCEMPA	1,057				
Benson	NCEMPA	2,001				
Clayton	NCEMPA	7,337	78.11	78.11	0.738	0.738
Edenton	NCEMPA	4,183				
Elizabeth City	NCEMPA	13,003	31.02	53.78	0.498	0.689
Farmville	NCEMPA	3,013				
Fremont	NCEMPA	748				
GUC	NCEMPA	71,119	22.49	32.44	0.290	0.310
Hamilton	NCEMPA	240				
Hertford	NCEMPA	1,186				
Hobgood	NCEMPA	268				
Hookerton	NCEMPA	432				
Kinston	NCEMPA	11,849	21.58	21.58	0.286	0.286
La Grange	NCEMPA	1,697				
Laurinburg	NCEMPA	5,548	78.55	78.55	1.166	1.166
Louisburg	NCEMPA	2,020				
Lumberton	NCEMPA	11,275	9.92	54.49	0.175	0.720
New Bern	NCEMPA	23,395	66.69	109.43	0.932	1.495
Pikeville	NCEMPA	504				
Red Springs	NCEMPA	1,714				
Robersonville	NCEMPA	975				
Rocky Mount	NCEMPA	28,782	56.65	67.11	1.090	1.138
Scotland Neck	NCEMPA	1,374				
Selma	NCEMPA	2,868				
Smithfield	NCEMPA	4,603	32.19	32.19	0.368	0.368
Southport	NCEMPA	3,206				
Tarboro	NCEMPA	6,263	13.45	210.34	0.317	0.966

Reliability Indices (2021)						
Utility	Agency	Customers (2021 EIA-861)	SAIDI w/o MED (minutes)	SAIDI w/ MED (minutes)	SAIFI w/o MED	SAIFI w/ MED
Wake Forest	NCEMPA	6,660	26.61	26.61	0.361	0.361
Washington	NCEMPA	13,961				
Wilson	NCEMPA	35,503	40.55	49.19	0.602	0.639
Albemarle	NCMPA1	12,505	50.08	66.15	0.518	0.730
Bostic	NCMPA1	200				
Cherryville	NCMPA1	2,497				
Cornelius	NCMPA1	3,962	196.96	196.96	1.527	1.527
Drexel	NCMPA1	1,244				
Gastonia	NCMPA1	30,072	60.55	123.49	0.939	1.303
Granite Falls	NCMPA1	2,601	44.29	44.29	0.426	0.426
High Point	NCMPA1	43,204	100.17	296.46	1.088	1.894
Huntersville	NCMPA1	7,759	47.29	47.29	0.920	0.920
Landis	NCMPA1	3,532				
Lexington	NCMPA1	19,357	74.68	130.59	1.199	1.560
Lincolnton	NCMPA1	2,856				
Maiden	NCMPA1	1,185				
Monroe	NCMPA1	11,231	36.20	73.21	0.657	0.757
Morganton	NCMPA1	8,529	60.65	60.65	0.419	0.419
Newton	NCMPA1	4,615	38.87	38.87	0.417	0.417
Pineville	NCMPA1	4,111	26.52	191.56	0.238	0.779
Shelby	NCMPA1	8,433	58.35	58.35	0.761	0.761
Statesville	NCMPA1	14,036	61.56	61.56	0.764	0.764
Concord	Non-PA	33,019	23.13	130.63	0.430	1.135
Dallas	Non-PA	3,737				
Enfield	Non-PA	1,275				
Forest City	Non-PA	4,829				
Fountain	Non-PA	300				
Kings Mountain	Non-PA	5,218	14.14	14.14	0.641	0.641
Macclesfield	Non-PA	345				
New River	Non-PA	8,942	11.48	11.48	0.146	0.146
Pinetops	Non-PA	719				
PWC - Fayetteville	Non-PA	83,881	47.68	107.14	0.651	1.532
Sharpsburg	Non-PA	1,467				
Stantonsburg	Non-PA	1,224				
Walstonburg	Non-PA	131				
Waynesville	Non-PA	3,178				
Windsor	Non-PA	1,736				
Winterville	Non-PA	3,301				

NCEMPA			39.96	67.82	0.575	0.780
NCMPA1			65.86	106.88	0.759	0.943
Non-PA			24.11	65.85	0.467	0.864
NC Public Power**			49.07	85.06	0.641	0.862
IOU Average			127.00	195.00	1.097	1.210
Co-op Average			124.85	276.38	1.339	2.050

*Note: Not all utilities are calculating reliability indices using IEEE-1366 standards

**For NC Public Power indices, averages of all utilities were used

2021 Utility Bundled Sales to Ultimate Customers- Residential

(Data from forms EIA-861- schedules 4A & 4D and EIA-861S)

Entity	State	Ownership	Customers (Count)	Sales (Megawatthours)	Revenues (Thousands Dollars)	Average Price (cents/kWh)
Albemarle Electric Member Corp	NC	Cooperative	12,254	183,878	25,166.0	13.69
Blue Ridge Elec Member Corp - (NC)	NC	Cooperative	69,741	731,293	92,292.0	12.62
Blue Ridge Mountain EMC - (GA)	NC	Cooperative	14,973	165,547	21,018.0	12.70
Broad River Electric Coop, Inc	NC	Cooperative	453	5,996	807.2	13.46
Brunswick Electric Member Corp	NC	Cooperative	89,362	1,118,277	154,062.3	13.78
Carteret-Craven EI Member Corp	NC	Cooperative	37,525	467,995	52,935.7	11.31
Central Electric Membership Corp. - (NC)	NC	Cooperative	21,171	339,119	44,493.0	13.12
City of Albemarle - (NC)	NC	Municipal	10,241	132,783	16,263.1	12.25
City of Concord - (NC)	NC	Municipal	28,092	355,428	36,286.9	10.21
City of Elizabeth City - (NC)	NC	Municipal	11,043	149,006	15,867.0	10.65
City of Gastonia - (NC)	NC	Municipal	25,806	279,425	34,800.7	12.45
City of Kinston - (NC)	NC	Municipal	9,897	131,056	17,081.4	13.03
City of Lexington - (NC)	NC	Municipal	17,183	231,923	28,087.2	12.11
City of Lumberton - (NC)	NC	Municipal	9,400	97,076	12,019.0	12.38
City of Monroe - (NC)	NC	Municipal	9,065	107,226	14,002.0	13.06
City of Morganton - (NC)	NC	Municipal	6,729	70,703	8,141.6	11.52
City of New Bern - (NC)	NC	Municipal	19,702	252,838	30,482.1	12.06
City of Rocky Mount - (NC)	NC	Municipal	24,839	316,313	37,910.0	11.98
City of Statesville - (NC)	NC	Municipal	11,320	121,279	13,065.0	10.77
City of Washington - (NC)	NC	Municipal	11,355	137,933	17,877.3	12.96
City of Wilson	NC	Municipal	30,888	425,958	48,911.5	11.48
Duke Energy Carolinas, LLC	NC	Investor Owned	1,819,801	22,207,470	2,278,595.5	10.26
Duke Energy Progress - (NC)	NC	Investor Owned	1,257,123	16,374,422	1,901,168.9	11.61
Edgecombe-Martin County E M C	NC	Cooperative	10,489	151,302	20,769.0	13.73
EnergyUnited Elec Member Corp	NC	Cooperative	116,425	1,651,446	184,112.0	11.15
Fayetteville Public Works Commission	NC	Municipal	74,545	917,632	101,421.0	11.05
Four County Elec Member Corp	NC	Cooperative	29,458	450,103	57,309.0	12.73
French Broad Elec Member Corp	NC	Cooperative	35,070	330,213	43,928.4	13.30
Greenville Utilities Comm	NC	Municipal	62,916	856,996	93,491.5	10.91
Haywood Electric Member Corp	NC	Cooperative	25,966	279,351	43,358.3	15.52
Jones-Onslow Elec Member Corp	NC	Cooperative	74,773	980,933	116,025.8	11.83
Lumbee River Elec Member Corp	NC	Cooperative	61,395	1,012,883	117,016.5	11.55
Mecklenburg Electric Cooperative	NC	Cooperative	129	1,750	214.6	12.26
Mountain Electric Coop, Inc	NC	Cooperative	15,500	179,679	19,588.0	10.90
New River Light & Power Co	NC	State	7,177	61,988	5,871.2	9.47
Pee Dee Electric Member Corp	NC	Cooperative	19,169	266,026	34,089.9	12.81
Piedmont Electric Member Corp	NC	Cooperative	29,420	419,426	56,081.9	13.37
Randolph Electric Member Corp	NC	Cooperative	30,355	374,514	49,153.9	13.12
Roanoke Electric Member Corp	NC	Cooperative	12,076	170,941	27,762.0	16.24
Rutherford Elec Member Corp	NC	Cooperative	68,143	939,121	104,533.0	11.13
South River Elec Member Corp	NC	Cooperative	43,626	684,509	86,172.6	12.59
Sunnova	NC	Behind the Meter	1	5	0.3	.
Surry-Yadkin Elec Member Corp	NC	Cooperative	27,305	339,405	50,973.7	15.02
Tideland Electric Member Corp	NC	Cooperative	20,680	241,705	34,228.0	14.16
Town of Apex- (NC)	NC	Municipal	24,585	251,886	29,118.8	11.56
Town of High Point	NC	Municipal	36,982	395,083	49,813.3	12.61
Town of Huntersville - (NC)	NC	Municipal	7,057	77,932	9,551.7	12.26
Town of Murphy - (NC)	NC	Municipal	3,574	46,399	5,596.0	12.06
Town of Tarboro - (NC)	NC	Municipal	5,280	59,917	7,537.0	12.58
Tri-County Elec Member Corp (NC)	NC	Cooperative	21,692	337,878	39,068.2	11.56
Tri-State Electric Member Corp	NC	Cooperative	1,429	14,009	1,842.0	13.15
Union Electric Membership Corp - (NC)	NC	Cooperative	79,399	1,180,194	143,760.0	12.18
Virginia Electric & Power Co	NC	Investor Owned	105,719	1,612,896	183,287.6	11.36
Wake Electric Membership Corp	NC	Cooperative	47,700	664,655	81,169.0	12.21
York Electric Coop Inc	NC	Cooperative	14	199	24.0	12.06
Adjustment 2021	NC	Other	128,580	1,560,764	198,838.8	.