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July 6, 2023

VIA Electronic Filing

Ms. Shonta Dunston
Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4300

RE: In the Matter of: Application for General Rate Case, Docket No. E-34, Sub 54, and Petition of Appalachian State University d/b/a New River Light and Power for an Accounting Order to Defer Certain Capital Costs and New Tax Expenses, Docket No. E-34, Sub 55

Dear Ms. Dunston:

Enclosed for filing on behalf of Appalachian Voices in the above-referenced proceeding, please find the following:

1. Summary of Testimony of Jason Hoyle
2. Summary of Testimony of Justin Barnes

Please contact me at 919-967-1450 if you have any questions or need additional information concerning this filing. Thank you for your assistance.

Best Regards,

s/ Nick Jimenez

Enclosures
cc: Parties of Record

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-34, SUB 54

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My name is Jason W. Hoyle. I am the Principal Energy Policy Analyst at EQ Research, LLC. In that role, I coordinate and contribute to EQ Research's various research projects for clients, provide oversight of EQ Research's electric industry tracking services and consulting projects, which includes preparing and reviewing analyses of rate case filings for electric utilities, and perform customized research and analyses to fulfill client requests. Prior to working at EQ Research, I was employed by the Appalachian Energy Center and the Center for Economic Research and Policy Analysis for nearly eighteen years in various positions that entailed, among other things, due diligence, regulatory compliance analysis, and pro forma financial and valuation analysis.

The purpose of my testimony is to (1) analyze New River Light and Power's (NRLP) overall rate of return (ROR), return on equity (ROE), cost of debt, and capital structure proposals; (2) provide alternative ROR, ROE, cost of debt, and capital structure proposals; (3) offer additional cost of capital recommendations to ensure that NRLP optimizes its capital structure going forward and updates its capital structure and ROR to reflect this optimization; (4) discuss NRLP's obligation to develop energy efficiency and demand side management (EE/DSM) programs that comply with the Commission's order in NRLP's last rate case; (5) provide an overview of the unique characteristics of NRLP residential customers, specifically as they relate to the potential opportunities and challenges of implementing EE/DSM programs; (6) analyze NRLP's tentative EE/DSM plans; and (7) present additional EE/DSM programming and planning recommendations.

More specifically, I find NRLP's originally proposed overall ROR of 7.007%, with a 9.60% ROE, 4.20% cost of debt, and 52% common equity to 48% long term debt capital structure to be unreasonable and unjustified because they are not cost based, violate accepted rate making standards, are benchmarked against inapplicable industry data and regulatory proceeding outcomes, and would therefore unjustly burden NRLP customers and improperly impact the transfer of NRLP profits to the Appalachian State University endowment fund under North Carolina law. I recommend that NRLP's proposals relating to ROR, ROE, cost of debt, and capital structure be rejected by the Commission, and recommend that the Commission instead approve a 6.25% ROE, 2.3% cost of debt, and 78% common equity to 22% long-term debt capital structure and require NRLP to both conduct a discounted cash flow analysis to optimize its capital structure and, if necessary, submit a compliance filing within a reasonable time frame that updates NRLP's capital structure and ROR in line with this discounted cash flow analysis.

I will note that NRLP and the Public Staff – North Carolina Utilities Commission filed an Agreement and Stipulation of Settlement on July 5, 2023 (the Stipulation), which "resolves all areas of disagreement between the parties" and proposes a 6.165% overall rate of return, 9.10% ROE, 3.23% cost of debt, and 50% common equity to 50% long-term debt capital structure for the Commission's approval. I would recommend that the Commission reject these proposals as well as they are not grounded in actual cost-based values, improperly incorporate risks to which NRLP is not subject, and would result in NRLP customers paying excessive, unjust, and unreasonable rates.

With respect to EE/DSM, I discuss the Commission's Order Accepting Stipulation and Granting Increase in Rates in Docket No. E-34, Sub 46 (Sub 46 Order), which requires NRLP to develop rate schedules and EE/DSM programs that capitalize on its advanced metering infrastructure (AMI) system. I note that NRLP has not formally proposed or filed any EE/DSM programs for the Commission's approval, even though none of its wholesale power supply related contracts prohibit or restrict EE/DSM programs. Given the unique characteristics of NRLP's residential customers, who earn less per capita than the statewide average, are highly mobile, and are comprised of a growing number of renters, I find that EE/DSM programs would have even greater beneficial impacts. NRLP has indicated that it is seeking grant funding to pursue heat pump and water heater rebate programs, electric vehicle charging infrastructure, and programmable thermostats that NRLP could control. While this is a promising start, I recommend that NRLP prepare and file an EE/DSM program plan that establishes overall goals, outlines guiding principles, provides benchmarks, evaluates EE/DSM program options, defines an evaluation, measurement and verification process and program review standards, and provides a timeline with specific milestones for program design, development, review, and modifications. In addition, I recommend that NRLP convert the three EE/DSM programs that it has tentatively identified into formal pilot proposals, develop a behavior-based DSM pilot program that enables NRLP to communicate with customers and consumers and encourage them to reduce their electricity usage during coincident peak periods, and consider weatherization and building retrofit/upgrades for its customers. I will note that the Stipulation is completely silent on EE/DSM, despite the fact that Sub 46 Order provides that "NRLP should work to develop rate schedules and energy efficiency and demand side management programs that take advantage of the detailed usage data and other capabilities of its AMI metering system" and NRLP's current wholesale power supply contracts do not prohibit or restrict EE/DSM programs, and for this reason (along with others), the Stipulation should be rejected.

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My name is Justin R. Barnes, and I am the President of EQ Research LLC. I have conducted electric utility industry analyses since 2006, including approximately five years at the North Carolina Solar Center at North Carolina State University and multiple positions at EQ Research. I have submitted expert testimony before the North Carolina Utilities Commission (NCUC or Commission) previously, as well as in multiple other states.

My testimony addresses two topics: (1) New River Light and Power's (NRLP) proposed Schedule NBR "net billing" tariff, including (a) the Standby Supplemental Charge (SSC) proposed as part of that tariff, and (b) a buy-all, sell all DG tariff option in the form of Schedule PPR; and (2) NRLP's proposal to increase the residential basic facilities charge (BFC) from \$12.58/month to \$14.50/month.

The Commission should approve NRLP's proposed Schedule NBR, with two changes. First, the Commission should eliminate the SSC because my analysis, which corrects errors in NRLP's evaluation, indicates that the value of residential customer-sited solar generation slightly exceeds the residential retail rate. Accordingly, the SSC is unnecessary as a means of protecting non-participants from a cross-subsidy and would overcharge Schedule NBR participants. Specifically, exclusive of NRLP's marginal distribution costs, my analysis indicates that the value of residential customer-sited generation is in the range of 11.8 – 13.7 cents/kWh compared to a proposed residential retail rate of roughly 14.8 cents/kWh. I further estimated that the avoided distribution costs associated with residential solar range from 4.9 – 5.4 cents/kWh, which results in the overall solar value exceeding the residential retail rate by at least 15% under each of five different solar capacity contribution scenarios that I examined.

I identified six main deficiencies in NRLP's calculation of its proposed SSC. First, and foremost, NRLP's evaluation of the costs and benefits of customer-sited solar makes a basic methodological error by basing the calculation of avoided cost benefits for demand-related cost elements on the volumetric residential retail rate, rather than the demand unit costs that produce the retail rate. This is incorrect because the retail rate is a flat rate that represents the cost of peak demands averaged across all hours and customer demand, and as a consequence fails to reflect the fact that NRLP's costs are incurred based on customer demand during a limited number of peak hours. This causes NRLP's analysis to understate the cost savings associated with customer-sited solar and its contributions to reducing demand during peak hours, which translates directly into the purported need for, and proposed amount of, the proposed SSC. Ultimately, NRLP's methodology is inconsistent with cost causation and a proper analysis of the benefits of customer-sited solar.

Beyond this foundational error, I identified five additional problems with the utility's analysis and the proposed SSC: (1) NRLP's analysis of solar contribution to periods of peak demand relied on solar production data that contains large amounts of missing data, and uses an inaccurate methodology to fill in those gaps; (2) NRLP failed to include reduced distribution system loading and accompanying avoided distribution capacity benefits in its evaluation on the incorrect grounds that its distribution costs are fixed, which ignores the reality that all utilities have marginal distribution costs and all types of costs are marginal over the long-term; (3) Schedule NBR will be available to non-residential customers, but NRLP's analysis of costs and benefits was limited to, and can only be applied to, residential customers; (4) NRLP proposes to base the SSC on the AC nameplate capacity of the customer's inverter rather than the system design capacity, which conflicts with how it calculated the proposed SSC; and (5) NRLP's SSC calculation implicitly assumes that customers would be able to fully utilize all system production to offset retail purchases from NRLP as part of the "cost" side of its evaluation of customer-sited PV costs and benefits, when in fact NRLP proposes to zero-out accrued excess generation on January 1 of each year. NRLP addressed deficiencies (3) and (5) in supplemental filings.

Second, the Commission should modify the proposed Schedule NBR to allow indefinite carryover of accrued credits, or in the alternative, allow a customer to choose their annual period, instead of requiring annual forfeiture of accrued credits on January 1 of each year. This change would allow customers to size a system to fully offset their annual on-site energy consumption, and would provide a simple and effective deterrent against oversizing. In addition, because I find that the benefits of customer-sited solar are greater than the residential retail rate, there is no need to eliminate credits in response to cross-subsidization concerns.

The Commission should decline to approve NRLP's proposed Schedule PPR for three reasons. First, it prevents qualifying customers from enjoying the full benefit of their solar systems by prohibiting them from consuming the energy they generate on-site. Second, it bases compensation on an inaccurate methodology for determining the avoided costs of customer-sited PV, as I previously discussed. Finally, it could be confusing for customers because its eligibility requirements significantly overlap with those for Schedule NBR.

The Commission should deny NRLP's proposal to increase the residential BFC to $14.50/month, and direct NRLP to reduce the residential BFC to no more than $10.61/month. NRLP's justification for its proposed BFC amount is that $14.50/month is less than its residential fixed costs of $36.00/month, an amount based on the entirety of its proposed distribution revenue requirement for the residential class, as translated into $/customer-month. But the BFC should be limited to costs that are incurred based on the number of customers and such customer-related costs are only a portion of NRLP's distribution costs. Rather, the costs of NRLP's shared distribution system upstream of a customer's service drop are caused by customer demands, not the number of customers on the system. It is inappropriate to include those demand-related costs in the BFC, as doing so ignores the causes of those costs, and consequently sends an inaccurate price signal to customers. I calculated a residential BFC of $10.61/month using what is commonly referred to as the "Basic Customer Method" under which customer-related costs are limited to the costs of meters, service drops, and customer service and billing expenses. This amount is reduced to $10.38/month if certain additional expenses that NRLP classifies as customer-related in its cost of service study are excluded.