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July 25, 2022

Ms. A. Shonta Dunston Chief Clerk North Carolina Utilities Commission 430 N. Salisbury Street Raleigh, NC 27603 Via Electronic Submittal

Re: In the Matter of Duke Energy Progress, LLC's Request to Initiate Technical Conference Regarding the Projected Transmission and Distribution Projects to be Included in Performance-Based Regulation Application – NCUC Docket No. E-2, Sub 1300

Vote Solar's Comments

Dear Ms. Dunston:

On behalf of Vote Solar, I am herewith submitting the attached Comments in the above referenced docket.

If you should have any questions concerning this filing, please let me know.

Thank you and your staff for your assistance.

Sincerely,

Isl R. Taylor Speer

R. Taylor Speer

Attorney for Vote Solar

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Enclosure

cc: All parties and counsel of record NC Public Staff

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STATE OF NORTH CAROLINA UTILITIES COMMISSION RALEIGH

DOCKET NO. E-2, SUB 1300

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the matter of:

Duke Energy Progress, LLC's Request to Initiate Technical Conference Regarding the Projected Transmission and Distribution Projects to be Included in Performance-Based Regulation Application

VOTE SOLAR'S COMMENTS

Vote Solar responds to Duke Energy Progress, LLC's ("DEP") request for a technical conference and subsequent supporting informational filing in the instant docket as follows.

INTRODUCTION

DEP's impending proposal for performance-based regulation ("PBR") relative to proposed transmission and distribution ("T&D") capital projects presents a case of first impression before the North Carolina Utilities Commission ("Commission") and a unique opportunity to set precedent relative to performance-based ratemaking in North Carolina, generally. To ensure close alignment with N.C. GEN. STAT. §62-133.16's express policy goals for PBR, Vote Solar requests that DEP revise its informational filing and subsequent PBR application to include, consistent with these comments: (i) increased transparency for T&D planning; (ii) increased realization of distributed energy resources ("DER[s]") to offset capacity upgrades, (iii) increased realization of DERs, including energy efficiency,

to harden the T&D network, and (iv) additional clarity with respect to inconsistencies in DEP's proposed program budgets.

BACKGROUND

By way of a filing dated June 8, 2022, DEP informed the Commission it intends to file a general rate case with provisions for performance-based regulation ("PBR") under N.C. GEN. STAT. §62-133.16. The law was passed during October 2021, part and parcel to North Carolina's adoption of House Bill 951 ("HB 951"), and authorizes performance-based ratemaking when linked with certain policy goals, such as decoupling an electrical utility's revenue from the volume of retail sales within the residential rate class. *See, generally,* N.C. GEN. STAT. §62-133.16. When filed, this will be the *first* request of an electrical utility for a rate case containing PBR under N.C. GEN. STAT. § 62-133.16.

DEP's June 8, 2022 filing in this docket further requests that the Commission permit and initiate a technical conference under the Commission's Rule R1-17B, which provides for certain procedures in the event of a general rate case containing PBR under N.C. GEN. STAT. §62-133.16. These procedures were only recently adopted by the Commission, pursuant to its February 10, 2022 'Order Adopting Commission Rule R1-17B.' The is the *first* technical conference for purposes of a general rate case containing PBR under N.C. GEN. STAT. §62-133.16.

On July 15, 2022, DEP filed information relative to the projected T&D projects it intends to link to PBR in the impending general rate case. The instant comments by Vote Solar therefore address DEP's projected T&D capital projects and offer recommendations to increase transparency and acknowledge greater value from DERs, including solar, storage, energy efficiency and demand response programs.

COMMENTS AND RECOMMENDATIONS

A. DEP's proposed T&D spending is grounds for a more transparent T&D planning process.

DEP's informational filing identifies T&D capital projects the utility will attempt to rate base in a Multi-Year Rate Pay plan; however, it is difficult to determine the prudence of proposed programs with the information shared. The instant docket and the impending rate case therefore provide an opportunity for additional clarity into DEP's planning process and the purported need for capital improvements.

DEP provides cost estimates by program and by location, for example, but does not provide information as to the purported reason why these locations need investment and how exactly that investment will be made beyond the broad categories listed in the program descriptions. DEP Exhibit TC3-MYRP Distribution Project List identifies several substation construction projects, but does not answer several important questions, including:

- What is the current and forecasted demand in the related area?
- What are DEP's assumptions in that forecast?
- What sized substation bank and feeder breakers does DEP propose?
- Do viable alternative pathways, like non-wire alternatives, exist to meet the identified grid need at a lower cost to customers?

There is currently no opportunity for stakeholders to engage in DEP's planning process prior to DEP proposing a fully baked investment plan, which is not consistent with planning best practices or the Commission's recent orders requiring stakeholder engagement.

Considering the scope of spending being proposed and the importance of maintaining reliable grid infrastructure throughout the change in the energy landscape, Vote Solar believes it is reasonable for the Commission to establish a more transparent distribution planning process in the future, so that all stakeholders may be able to evaluate the prudence of proposed investments and to offer alternative analysis in the interest of ensuring the best use of ratepayer funds.

Vote Solar recommends—in the impending rate case—that DEP provide and the Commission require DEP to provide more thorough background information, including: relevant demand forecast, assumptions, and the specifics of the proposed solutions. Vote Solar also recommends—in parallel with or after DEP's impending rate case with PBR application—that the Commission open a docket to study and receive information relative to all electrical utilities' distribution system planning, including DEP.

B. DEP should consider options to minimize capacity upgrade costs through distributed energy resources.

The opaqueness of DEP's proposed T&D spending is demonstrated further by its proposed capacity expansion programs. Together, the T&D capacity upgrade programs account for about 30% of the total projected spending. DEP's narrative states the capacity expansions programs will facilitate DER growth. It also suggests, but does not state, that this will occur exclusively via traditional T&D infrastructure investments. While traditional T&D investments are warranted, precedent from other utilities demonstrates that

DER applications are themselves capable of deferring or minimizing capacity constraints, which can save ratepayer dollars and contribute to meeting the goals of HB 951.¹

DEP Exhibit TC-3 notes six capacity expansion projects that consist of new substation banks and feeder breakers with line upgrades. Project spending ranges from an estimated \$22 million to \$60 million. While details are unclear as to exactly what these projects consist of, it is reasonable to suggest that on-site and feeder level DER applications can provide some of the same services as capacity expansion investments.² In the impending MYRP case, each of these projects should be analyzed for the potential of Non-Wires Alternatives ("NWA") to defer or right size the project. Doing so could achieve the dual goals of saving ratepayer dollars while contributing to achieve the goals set forth in HB 951.

A pilot by Xcel Energy Minnesota and the Center for Energy and Environment ("CEE") showed that Xcel Energy could cost-effectively defer a large transformer upgrade through a combination of existing energy efficiency ("EE") and demand response programs ("DR").³ Using data published through the state's Integrated Distribution Planning

¹ Pacific Energy Institute. 2020. NWA Opportunity Evaluation Survey of Current Practice. Retrieved from: https://pacificenergyinstitute.org/wp-content/uploads/2020/04/NWA-Opportunity-Evaluation-Survey-final-Mar-2020.pdf

² See Hawaiian Electric. 2020. Non-Wires Opportunity Evaluation Methodology. Retrieved from: https://www.hawaiianelectric.com/documents/clean_energy_hawaii/integrated_grid_plan_ning/stakeholder_engagement/working_groups/distribution_planning/20200602_dpwg_n_on_wires_opportunity_evaluation_methodology.pdf

³ Center for Energy and Environment. 2021. Non-Wires Alternative As a Path to Local Clean Energy: Results of a Minnesota Pilot. Retrieved from: https://www.mncee.org/sites/default/files/report-files/Non-Wires%20Alternatives%20as%20a%20Path%20to%20Local%20Clean%20Energy.pdf

process, the team identified a planned investment that consisted of a new transformer, new feeder, and feeder reconfiguration in five years at a total cost of \$4.1 million. This proposed investment could be deferred for one year with a 500kW demand reduction, which would yield a net present value ("NPV") savings of \$177,632. The team marketed existing EE and DR programs to customers on that feeder and used the NPV of a one-year deferral as the project budget. The pilot saved 576 kW, exceeding the goal, and did so under-budget, successfully deferring the traditional capacity expansion investment. This example also highlights the value that a transparent distribution planning process could bring to North Carolina.

Vote Solar acknowledges not all capacity expansion upgrades are viable for NWA. DEP has an obligation, however, to demonstrate that proposed investments are a prudent use of ratepayer dollars. DEP's obligation, in that regard, includes a duty to investigate alternative ways to meet grid needs, to the extent they can be accomplished at a lower cost to ratepayers while simultaneously advancing the statutory goals set forth in HB 951. Vote Solar recommends, therefore, that—in the impending rate case—DEP perform and the Commission require DEP to perform a NWA analysis on any T&D capacity expansion projects proposed in the MYRP.

C. DEP should leverage energy efficiency and distributed energy resources to increase the resilience of distribution assets.

Several of DEP's proposed programs note the need to undertake a variety of infrastructure hardening or upgrades in response to the increased frequency of severe weather events. Vote Solar acknowledges some degree of infrastructure hardening is necessary, but it should not be the only solution considered. If DEP is justifying using millions of ratepayer dollars to respond to increased instances of severe weather, they have

a duty to investigate and propose the most prudent use of ratepayer dollars, to include rapid divestment from and retirement of fossil fuel resources.

If the ultimate goal is to minimize outages to ratepayers at the lowest cost, it is reasonable to investigate the role that DERS, EE and DR programs play in creating localized resilience. Solar and storage, for example, achieve the simultaneous benefit of generating local power that is more resilient than any hardened feeder could be, while also reducing the load at the feeder level. Highly efficient buildings increase passive survivability so that any outage is less threatening to ratepayers during extreme heat or cold, while continuing to lower the load on the local feeder. Microgrids can be used to ensure critical loads are still served during outages. While some grid hardening and resilience investments may be necessary, DEP's proposed program spending for some of these purposes can likely be better used to invest in demand side resilience.

Finally, DEP states several times in the program descriptions that it will identify areas that are more vulnerable to extreme weather events through the analysis of historical data. It is possible that the frequency, severity, and geography of areas that will experience extreme weather events in the future will change due to climate change. For example, the North Carolina Climate Science Report suggests that there is a high likelihood that increased high precipitation events will lead to more inland flooding events, which has a direct impact on DEP's distribution system.⁴ DEP is participating in a Climate Risk & Resilience Technical Working Group that is working on exactly this issue. Vote Solar

⁴ North Carolina Institute for Climate Studies. 2020. North Carolina Climate Science Report. Retrieved from: https://ncics.org/wp-content/uploads/2020/10/NC_Climate_Science_Report_FullReport_Final_revised_Septe_mber2020.pdf

recommends that DEP coordinate internally to incorporate climate change forecasting to identify how changing weather patterns will affect DEP's T&D system, and that DEP incorporate these lessons into the impending rate case with PBR. Vote Solar recommends further that the Commission require the same.

D. DEP should clarify inconsistencies in its proposed program budgets.

Vote Solar identified multiple inconsistencies in the reported program totals while reviewing the data shared by DEP. These inconsistencies are described below and further detailed in the attached exhibit, identified as *V S-1*.

First, the slide deck provided (2022 DEP T-D MYRP Technical Conference Presentation) lists projected CapEx and OpEx costs per rate year on one slide and, for only certain programs, lists a total program cost on the following slide. In every case in which the slide presented a total program cost, it was inconsistent with the total of the spending per year. For example, the total of the annual estimated CapEx and OpEx spending on the Self-Optimizing Grid program is \$212.70 million (slide 16). However, the following slide (slide 17) states the program total to be \$206.4 million. Every instance in which the slide deck notes a total program cost, the total program cost is an underestimate compared to the total of the projected CapEx and OpEx listed.

Second, DEP Exhibit TC-5-MYRP Distribution Substation Scope provides further detail on the program costs of the distribution programs. These totals are, once again, inconsistent with both the total of the annual CapEx and OpEx spending and total program spending noted in the slide deck. While most of the program totals in Exhibit TC-5-MYRP were relatively close to the total of annual CapEx and OpEx noted in the slide and can be attributed to rounding errors, the distribution capacity upgrade program was significantly different. The slide deck total is \$463.30 million while the TC-5-MYRP total is \$253.46

million, resulting in an underestimate of \$210.93 million in the TC-5-MYRP total as compared to the slide deck.

Lastly, Vote Solar spot checked the Distributed Automation (DA) Cost Benefit Analysis spreadsheet (TC-8A). In the slide deck, total annual CapEx and OpEx estimated expenditure is \$51.3 million (slide 26). The slide deck notes a program total of \$43.8 million (slide 27). DEP Exhibit TC-8A, however, lists a total of \$46.6 million. These figures illustrate three different inconsistencies with respect to the Distributed Automation (DA) Cost Benefit Analysis spreadsheet (TC-8A).

Vote Solar recommends, therefore, that—in the impending rate case with PBR—DEP correctly identify and the Commission require DEP to correctly identify the total estimate for each program, so stakeholders can effectively review materials, and clarify why totals might have varied.

CONCLUSION

Consistent with these comments, Vote Solar requests that DEP include in the impending rate case, and the Commission require DEP to include in the impending rate case: (i) increased transparency for T&D planning; (ii) increased realization of distributed energy resources ("DER[s]") to offset capacity upgrades, (iii) increased realization of DERs, including energy efficiency, to harden the T&D network, and (iv) additional clarity with respect to inconsistencies in DEP's proposed program budgets.

Respectfully submitted on July 25, 2022.

FOX ROTHSCHILD LLP

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CERTIFICATE OF SERVICE

I hereby certify that, on July 25, 2022, the foregoing document was served upon all parties of record by electronic mail, or depositing the same in the United States mail, postage prepaid.

FOX ROTHSCHILD LLP

/s/ David T. Drooz

David T. Drooz

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	T&D Spending	The state of the s												
		Distribution	Capacity		Voltage Reg	Dist H&R:	Dist H&R: Public	Dist H&R:		Equipment	Long Duration	Targeted	Tree	Infrastructure
	Total (M)	Total	Upgrades	SOG	and Mgmt	Laterals	Interference	Storm	DA	Retrofit	Interruption	Undergrounding	Hazard	Integrity
Total CapEx	\$3,258.50	\$1,800.40	\$463,30	\$212.70	\$204.70	\$171.60	\$18.10	\$77.20	\$50.40	\$83.20	\$2.60	\$103.80	\$47.70	\$365.10
RY 1	\$1,214.90	\$777.00	\$220,30	\$73.40	\$77.80	\$65.90	\$7.10	\$19.20	\$25.80	\$37.60	\$1.30	\$33.70	\$20.20	\$194.70
RY 2	\$872.20	\$444.10	\$121.70	\$57.20	\$59.00	\$25.30	\$7.30	\$18.70	\$12,50	\$17.00	\$0.00	\$23.00	\$14.20	\$88.20
RY 3	\$1,171.40	\$579,30	\$121.30	\$82.10	\$67.90	\$80.40	\$3.70	\$39.30	\$12.10	\$28.60	\$1.30	\$47.10	\$13,30	\$82.20
Total OpEx	\$25.00	\$24,20	\$8.70	\$2.90	\$0.00	\$3.20	\$0.30	\$1.30	\$0.90	\$0.15	\$0.08	\$0.07	\$0.00	\$6.60
RY 1	\$10.24	\$10,24	3.5	1	0	1.2	0.1	0.3	0.5	0.08	0.04	0.02	0	3.5
RY 2	\$6.36	\$5.96	2.4	0.8	0	0.5	0,1	0.3	0.2	0.04	0	0.02	0	1.6
RY 3	\$8.40	\$8.00	2.8	1.1	0	1,5	0.1	0.7	0.2	0.03	0.04	0.03	0	1.5
TotEx calculated	\$3,283.50	\$1,824.60	\$472.00	\$215.60	\$204.70	\$174.80	\$18.40	\$78.50	\$51.30	\$83.35	\$2.68	\$103.87	\$47.70	\$371.70
TotEx stated in Slide Deck		Not stated	Not stated	206.4	Not stated	146.2	15.7	64.9	43.8	70.7	2.2	86.2	Not stated 1	Not stated
Difference Between RY1-3 Totals and Stated Total	N/A	N/A	N/A	-\$9.20	N/A	-\$28.60	-\$2.70	-\$13.60	-\$7.50	-\$12.65	-\$0.48	-\$17.67	N/A	N/A

		DEP Exhibit TC-5-MYRP Distribution Substation Scope (Million)												
			Capacity		Voltage	H&R:	H&R: Public	H&R:		Equipment	Long Duration	Targeted	Vegetation	Distribution
		Total	uplift	SOG	Regulation	Laterals	Interference	Storm	DA	Retrofit	Interruption	Underground	Mgmt.	Integrity
Projected in-service	Total	\$1,563.37	\$253.46	\$212.68	\$204.64	\$171.60	\$18.13	\$77.22	\$50.42	\$83.21	\$2.59	\$103.84	\$20.41	\$365.18
cost (including AFUDC	RY 1	\$631,43	\$83,77	\$73,40	\$77,79	\$65.89	\$7,11	\$19.21	\$25.79	\$37.58	\$1.26	\$33.71	\$11.21	\$194.70
and contingency)	RY 2	\$385,10	\$71.87	\$57,18	\$59,00	\$25,29	\$7.29	\$18,75	\$12.48	\$16,99	\$0.00	\$23.02	\$5.00	\$88,23
	RY 3	\$546,83	\$97.81	\$82,10	\$67,86	\$80.41	\$3,73	\$39,27	\$12.15	\$28,64	\$1,33	\$47.10	\$4.20	\$82.24
Estimated one-time	Total	\$23.36	\$7.61	\$2.97	\$0.00	\$3.12	\$0.33	\$1.40	\$0.96	\$0.18	\$0.09	\$0.07	\$0.00	\$6.63
installation O&M costs	RY 1	\$9.39	\$2,52	\$1.03	\$0.00	\$1.20	\$0.13	\$0.35	\$0.49	\$0.08	\$0.04	\$0.02	\$0.00	\$3.53
	RY 2	\$5.78	\$2,16	\$0.80	\$0,00	\$0.46	\$0,13	\$0.34	\$0.24	\$0.04	\$0.00	\$0.02	\$0.00	\$1.60
	RY 3	\$8,19	\$2,94	\$1,15	\$0,00	\$1,46	\$0.07	\$0.71	\$0.23	\$0.06	\$0.04	\$0.03	\$0,00	\$1.49
Estimated annual net	Total	-\$4.16	\$0.00	\$0.34	\$0.35	-\$0.30	\$0.00	-\$0.26	\$0.02	-\$0.07	-\$0.01	-\$0.36	\$0.00	-\$3.88
incremental O&M costs	RY 1	-\$2.15	\$0.00	\$0.12	\$0.13	-\$0.11	\$0,00	-\$0,07	\$0.01	-\$0.03	\$0.00	-\$0.12	\$0,00	-\$2.08
/ (savings)	RY 2	-\$0.93	\$0.00	\$0.09	\$0,10	-\$0,04	\$0.00	-\$0.06	\$0.01	-\$0.01	\$0.00	-\$0.08	\$0.00	-\$0.93
	RY 3	-\$1,08	\$0,00	\$0.13	\$0.11	-\$0.14	\$0.00	-\$0,13	\$0.01	-\$0,02	\$0.00	-\$0.16	\$0.00	-\$0.86
	Total Cost	\$1,586.73	\$261,07	\$215,66	\$204.64	5174.71	\$18.46	\$78.62	\$51.38	\$83.39	\$2.68	\$103.91	\$20.41	\$371.81

		Difference between totals stated in slide deck and Exhibit TC-5 (Million)												
	Distribution 7	Capacity U.S	SOG V			Dist H&R: Publi I					geted Undergn Tr	ee Hazard Infras	tructure Integr	
Total CapEX Diffe	\$237.03	\$209.84	\$0.02	\$0.06	\$0.00	-\$0.03	-\$0.02	-\$0.02	-\$0.01	\$0.01	-\$0.04	\$27.29	-\$0.08	
RY 1 Difference	\$145.57	\$136,53	\$0.00	\$0.01	\$0,01	-\$0,01	-\$0.01	\$0.01	\$0.02	\$0.04	-\$0.01	\$8.99	\$0.00	
RY 2 Difference	\$59.00	\$49.83	\$0.02	\$0.00	\$0.01	\$0.01	-\$0.05	\$0.02	\$0.01	\$0.00	-\$0.02	\$9.20	-\$0.03	
RY 3 Difference	\$32.47	\$23.49	\$0.00	\$0.04	-\$0.01	-\$0.03	\$0.03	-\$0.05	-\$0.04	-\$0.03	\$0.00	\$9.10	-50.04	
Total OpEx Differ	\$0.84	\$1.09	-\$0.07	\$0.00	\$0.08	-\$0.03	-\$0.10	-\$0,06	-\$0.03	-\$0.01	\$0.00	\$0.00	-\$0.03	
RY 1 Difference	\$0.85	\$0.98	-\$0.03	\$0.00	\$0.00	-\$0.03	-\$0.05	\$0.01	\$0.00	\$0.00	\$0.00	\$0.00	-\$0.03	
RY 2 Difference	\$0.18	\$0.24	\$0.00	\$0.00	\$0.04	-\$0.03	-\$0.04	-\$0.04	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
RY 3 Difference	-\$0.19	-\$0.14	-\$0.05	\$0.00	\$0.04	\$0.03	-\$0.01	-\$0.03	-\$0.03	\$0.00	\$0.00	\$0.00	\$0.01	
Total EX Difference Using RY 1-3 Totals	\$237.87	\$210.93	-\$0.06	\$0.06	\$0.09	-\$0.06	-\$0.12	-\$0.08	-\$0.04	\$0.00	-\$0.04	\$27.29	-\$0.11	
Total EX Difference Using Stated Totals	NA	N/A	-\$9.26	N/A	-\$28.51	-\$2.76	-\$13,72	-\$7.58	-\$12,69	-\$0.48	-\$17.71 N/	A N/A		

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N/A	-\$14.0	\$16.3	-\$63.5	N/A	-\$12.6	-\$25.0	-\$73.3
	\$80.0	\$161.5	\$303.8	Not stated	\$76.1	\$101.8	\$444.
\$1,458.90	\$94.0	\$145.2	\$367.3	\$119.0	\$88.7	\$126.8	\$517.
\$0.40	Not stated	\$0.4	Not stated	Not stated	Not stated	Not stated	Not stated
	Not stated	95,5250	Not stated	Not stated	Not stated	Not stated	Not stated
	\$0.00 Not stated		Not stated	Not stated	Not stated	Not stated	Not stated
	Not stated		Not stated	Not stated	Not stated	Not stated	Not stated
\$592.10	\$13.5	\$28.4	\$85.3	\$38.7	\$24 0		1000000
\$428.10	\$27.1	\$74.0	\$118.9	\$47.0		4,411	\$101.
\$437.90	\$53.4	\$42.0	\$163.1	\$33.3		* TOTAL - CO	\$73
Total \$1,458,10	Intelligence \$94.0	Line H&R \$144.4	H&R \$367.3	Mgmt \$119.0	Breaker \$88.7	Transformer \$125.8	Planning \$517.5
Transmission	System		Substation	Vegetation			Capacity and Customer
		iransi	mission Progra	m Spending (M	illion)		Capacity an