BEFORE THE NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-2, SUB 1292

| | | |
|---|---|---|
| **In the Matter of:** | ) | |
| **Application of Duke Energy** | ) | |
| **Progress, LLC Pursuant to N.C. Gen.** | ) | **POST-HEARING BRIEF OF** |
| **Stat. § 62-133.2 and Commission** | ) | **SOUTHERN ALLIANCE FOR** |
| **Rule R8-55 Relating to Fuel and** | ) | **CLEAN ENERGY** |
| **Fuel-Related Charge Adjustments** | ) | |
| **for Electric Utilities** | ) | |

PURSUANT to North Carolina Utilities Commission (Commission or NCUC) Rule R1-25 and the Commission's *Order Excusing Witnesses, Accepting Testimony, Canceling Expert Witness Hearing, and Requiring Proposed Orders*, issued September 12, 2022, in this docket, Southern Alliance for Clean Energy (SACE) respectfully submits this post-hearing brief in the above-captioned docket.

## LEGAL STANDARD

In this annual fuel charge adjustment proceeding, the Commission establishes a rider to allow Duke Energy Progress, LLC (DEP or the Company) to recover certain fuel and fuel-related costs from its customers.[1] Section 62-133.2(a1) of the North Carolina General Statutes identifies specific fuel and fuel-related costs that the Company may recover from ratepayers through this rider. Further, the rider must be based on the "reasonable cost of fuel- and fuel-related costs prudently incurred under efficient management and economic operations."[2] DEP may only recover its "reasonable and

[1] N.C. Gen. Stat. § 62-133.2; NCUC Rule R8-55.
[2] N.C.G.S. § 62-133.2(d).

prudently incurred" fuel costs.[3] Therefore, a thorough examination of DEP's management and operations is a key part of the Commission's review in this proceeding.[4]

Several guiding principles inform the Commission's prudency review of DEP's incurred fuel and fuel-related costs—and by extension, the Company's management and operations that resulted in the incurrence of those costs. The burden of proof as to the "correctness and reasonableness of charges" and whether the "cost of fuel and fuel-related costs were reasonably and prudently incurred" rests with the Company.[5] NCUC Rule R8-55(e) specifies the minimum filings that DEP must submit for the Commission's cost recovery determination. "In reaching its decision, the Commission shall consider all evidence required under subsection (c) of this section as well as any and all other competent evidence that may assist the Commission in reaching its decision . . . ."[6] The Commission applies the following standard when considering the evidence in the record:

> [W]hether management decisions were made in a reasonable manner and at an appropriate time on the basis of what was reasonably known or reasonably should have been known at that time The Commission notes that this standard is one of reasonableness that must be based on a contemporaneous view of the action or decision under question.[7]

Ultimately, a "prudent utility strives to minimize its total cost of service."[8]

---

[3] NCUC Rule R8-55.
[4] *Id.*
[5] N.C.G.S. § 62-133.2(d); NCUC Rule R8-55(k).
[6] N.C.G.S. § 62-133.2(d).
[7] *Order Granting Partial Increase in Rates and Charges*, Docket No. E-2, Sub 537, at 14 (Aug. 5, 1988), *rev'd in part on other grounds and remanded*, *Utils. Comm'n v. Thornburg*, 325 N.C. 484, 385 S.E.2d 463 (1989) (hereinafter, "Harris Order").
[8] *Order Approving Fuel Charge Adjustment*, Docket No. E-2, Sub 833, at 17 (Sept. 25, 2003) (hereinafter, "2003 Fuel Order").

## ARGUMENT

### A. Fuel Price Volatility Is Increasing, Exposing Ratepayers to the Risk of Fuel Price Spikes

Gas markets are inherently volatile,[9] with gas market prices exhibiting a propensity "to change quickly and perhaps unpredictably."[10] Historically, both domestic and international supply and demand factors have driven volatility in gas markets.[11] It follows then that "increases in gas supply [would] generally result in lower gas prices, and decreases in supply tend to lead to higher prices."[12] With regard to demand, "[i]ncreases in demand [would] generally lead to higher prices, and decreases in demand tend to lead to lower prices."[13]

While current gas prices reflect traditional supply and demand drivers, a few factors are driving the current, substantial volatility in the gas markets. First, as the U.S. economy began to recover from the COVID-19 economic downturn, pent-up commercial and industrial demand exerted significant upward pressure on gas prices.[14] Similarly, increased export demand due to the Russia-Ukraine war and constrained Russian gas supply have increased gas prices.[15] Finally, because of low gas prices during the 2010s, gas production

---

[9] *Direct Testimony and Exhibits of Ronald J. Binz on behalf of Southern Alliance for Clean Energy*, Docket No. E-2, Sub 1292, at 6:14 (Aug. 24, 2022) (*Binz Direct Test.*)

[10] *Id.* at 8:11-12. "Officially, volatility is the standard deviation of changes in value of a variable over time." *Id.* at 8:16-17.

[11] *Direct Testimony of John A. Verderame for Duke Energy Progress, LLC*, Docket No. E-2, Sub 1292, at 8:5-6 (June 14, 2022) (*Verderame Direct Test.*).

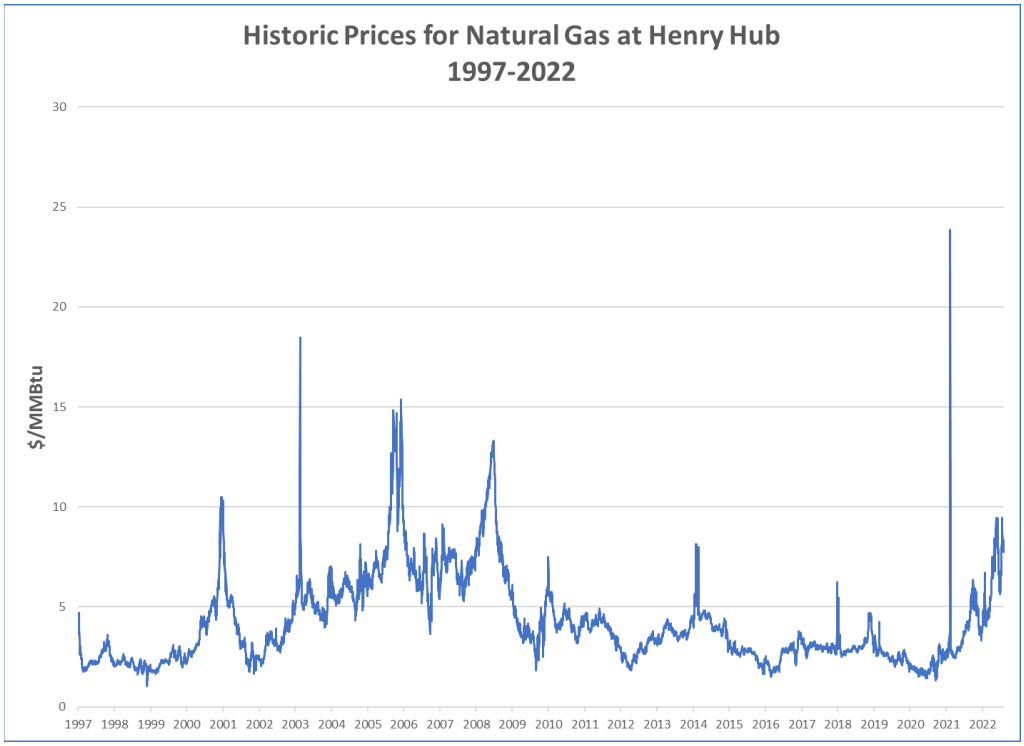
[12] *Natural gas explained: Factors affecting natural gas prices*, U.S. ENERGY INFORMATION ADMINISTRATION, https://www.eia.gov/energyexplained/natural-gas/factors-affecting-natural-gas-prices.php#:~:text=Natural%20gas%20prices%20are%20a,to%20lead%20to%20lower%20prices (last updated Oct. 5, 2021).

[13] *Id.*

[14] *See Testimony of John R. Hinton Public Staff – North Carolina Utilities Commission*, Docket No. E-2, Sub 1292, at 3:4-8 (Aug. 24, 2022) (*Hinton Direct Test.*). *See generally Verderame Direct Test.* at 6:9-11 (noting that "[c]hanges in coal and natural gas burns were primarily driven by increased demand from the economic rebound experienced following the COVID-19 shutdowns in 2020.").

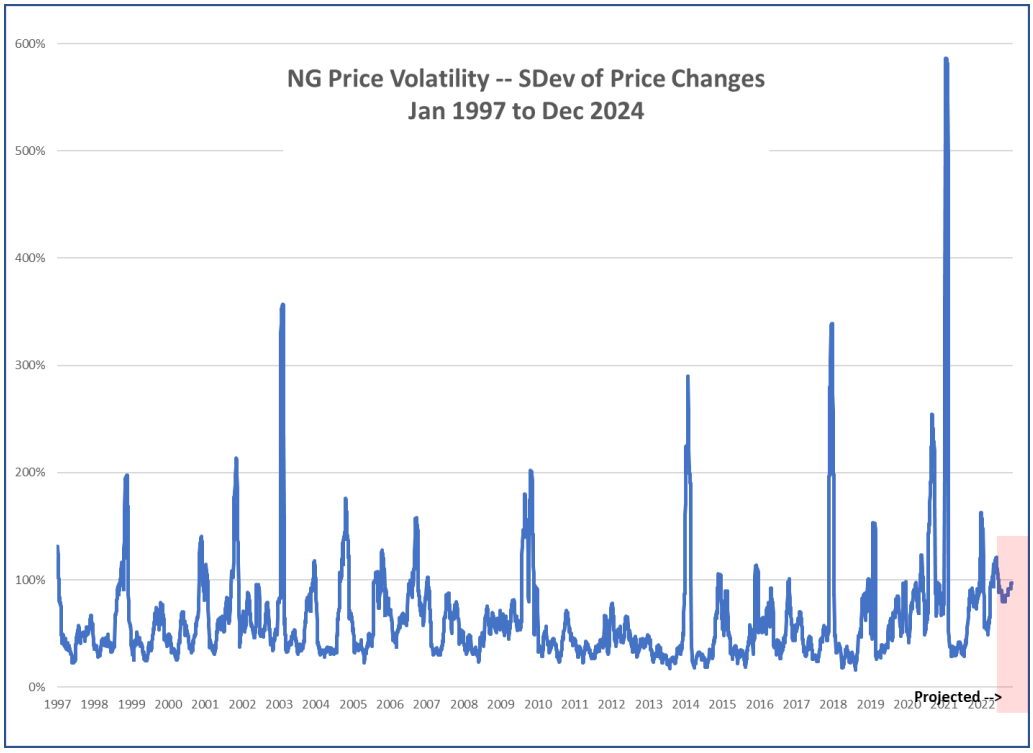
[15] *Hinton Direct Test.* at Ex. 3, p.1. *See also Verderame Direct Test.* at 8:7-8; *U.S. natural gas price saw record volatility in the first quarter of 2022*, U.S. ENERGY INFORMATION ADMINISTRATION (Aug. 24, 2022), https://www.eia.gov/todayinenergy/detail.php?id=53579.

has been relatively stable.[16] Until recently, gas suppliers had no incentive to increase gas production as additional supply would have decreased prices[17] and undercut profits even further. Collectively, these factors and others have generated both high gas prices and significant gas price volatility, as indicated in the two figures below, reproduced from the testimony of SACE witness Binz. The figure immediately below shows daily gas prices reported at the Henry Hub from 1997 to date.[18]




[16] *See Verderame Direct Test.* at 8:7-9; *Binz Direct Test.* at 9, Figure 1, 10, Figure 2, 11:4-5.
[17] *Natural gas explained: Factors affecting natural gas prices*, U.S. ENERGY INFORMATION ADMINISTRATION, https://www.eia.gov/energyexplained/natural-gas/factors-affecting-natural-gas-prices.php#:~:text=Natural%20gas%20prices%20are%20a,to%20lead%20to%20lower%20prices (last updated Oct. 5, 2021).
[18] *Binz Direct Test.* Figure 1.

The figure below shows price volatility during the period of January 1997 through December 2024.[19]




As these figures show, after a period of relatively stable gas prices and low volatility from 2011 to 2020, gas price volatility has significantly increased over the last 12 months, and gas prices are at levels not seen in 15 years.[20]

While DEP has little to no control over the factors that drive gas market volatility, the Company does retain significant control over the mix of resources on its system, as well as its plant operations.[21] DEP can build or procure new resources, and can retire existing resources. N.C.G.S. § 62-110.1; NCUC R8-60. DEP also controls how it procures

[19] *Binz Direct Test.* Figure 2.
[20] *Binz Direct Test.* at 11:4-6; *Hinton Direct Test. At 16:3-4.*
[21] *See generally Binz Direct Test.* at Ex. 3 (proposing utility regulatory strategies that would shield ratepayers from the risks often associated with utilities' investment and *operational* discretion).

fuel.[22] Furthermore, DEP, like other balancing authorities, determines which generating units should be operated and connected to the grid to satisfy demand or load, i.e., unit commitment, and what level of generation output from already committed units will most effectively reduce costs, i.e., economic dispatch.[23] Subject to Commission oversight, these decisions, which are largely within DEP's control, contribute to the nature and scale of incurred fuel and fuel-related costs.

Despite its significant control over its resource mix and operations, and the significant fuel price risks entailed, DEP continues to increase its reliance on gas-fueled power plants.[24] During the last two decades, DEP has built 3,588 megawatts (MW) (winter rated) of new gas combined-cycle plants alone.[25] DEP's increased reliance on gas in recent years exposes its ratepayers to gas price volatility and the risk of high gas prices, contrary to its obligation to minimize its total cost of service.[26]

Further still, DEP's and Duke Energy Carolinas' (collectively, Duke Energy) proposed carbon plan portfolios contemplate significant additional gas investment.[27] While Duke Energy has proposed blending and then phasing out gas with green hydrogen, it is unclear whether this strategy would ultimately be cost-effective given the high costs associated with creating, transporting, and burning green hydrogen.[28] It bears repeating

---

[22] *Verderame Direct Test.* at 4:14-17, Ex. 1. *See Direct Testimony of Dana M. Harrington for Duke Energy Progress, LLC*, Docket No. E-2, Sub 1292, at 14:10-12 (June 14, 2022) (*Harrington Direct Test.*).
[23] *See Verderame Direct Test.* at 4:18-24 – 5:16.
[24] *Binz Direct Test.* at 18:11-12.
[25] *Direct Testimony of Bryan P. Walsh for Duke Energy Progress, LLC*, Docket No. E-2, Sub 1292, at 4:21 – 5:1-11 (June 14, 2022) (*Walsh Direct Test.*); Duke Energy Progress 2020 Integrated Resource Plan, Docket No. E-100, Sub 165 at 206.
[26] 2003 Fuel Order at 17.
[27] *Binz Direct Test.* at 18:11-12.
[28] *See id.* at 18:14-16.

that these are actions DEP is choosing to take despite the Company's awareness of gas price volatility and the risk of gas price spikes.[29]

### B. Given the Incentives Produced by the Fuel Charge Adjustment Mechanism, it is Imperative that DEP Minimize its Fuel Costs

Given that the fuel charge adjustment mechanism allows DEP to recover its prudently incurred fuel costs, DEP has little incentive to minimize those costs. DEP's reliance on gas, coupled with the recent increases in gas prices, will result in significant rate shock for DEP ratepayers—on average, an 8.7% increase, or an extra $9.74 on the bill of the average residential ratepayer. Going forward, it will be all the more important for ratepayers that DEP manage its operations to minimize its fuel costs.

DEP's fuel burn costs for the January 1, 2021, through December 31, 2021, test period (Test Period) increased dramatically. Approximately 22.86 million megawatt-hours (MWhs) of energy was generated from DEP's gas-fired operations during the Test Period.[30] This correlated to a gas burn of 174.6 million MBtu, compared to a gas burn of 157.5 million MBtu in the prior test period.[31] The average forward Henry Hub price, which was $4.41/MMBtu for the Test Period, is projected to increase to $5.51/MMBtu between December 1, 2022 and November 30, 2023 (Billing Period).[32] This comes as no surprise as the "volatility of Henry Hub future natural gas prices . . . reached a peak of 179% in February 2022 and 109% for July 2022 as compared to a recent historical average of 48% for 2017 through 2021."[33] Indeed, the "increased cost of natural gas anticipated for the prospective billing period"[34] is one of the primary drivers of the approximately $337.2

[29] *See* Harris Order at 14.
[30] *See Walsh Direct Test*. at 6:17-20.
[31] *Verderame Direct Test.* at 6:6-8. This amounts to a 16% decrease. *Id.* at 6:5-6.
[32] *Id.* at 9:22-23.
[33] *Hinton Direct Test.* at 16:11-14.
[34] *Harrington Direct Test.* at 15:5.

million in requested fuel costs in this proceeding, "of which $255.4 million is a true up of under-recovered fuel costs . . . through June 30, 2022." [35]

The fuel charge adjustment mechanism established pursuant to N.C.G.S. § 62-133.2 permits DEP to recover these costs from its customers, subject to approval by the Commission. DEP is specifically authorized to "charge an increment or decrement as a rider to its rates [recovered from ratepayers] for changes in the cost of fuel and fuel-related costs used in providing its North Carolina customers with electricity." N.C.G.S. § 62-133.2(a). In addition, the experience modification factor allows DEP to reconcile the difference "between reasonable and prudently incurred cost of fuel and fuel-related costs and the fuel-related revenues that were actually realized during the test period under the cost of fuel and fuel-related cost components of rates then in effect," and recover that difference from its ratepayers. NCUC Rule R8-55(d)(3). *See also* N.C.G.S. § 62-133.2(d). Absent a disallowance, there is no cost sharing of fuel burn or fuel transportation costs between DEP shareholders and DEP ratepayers.[36]

Because fuel costs are typically passed through to ratepayers, DEP has little financial incentive to scale back its reliance on gas.[37] Although DEP does not earn a return on any fuel costs recovered pursuant to the fuel charge adjustment mechanism, it does earn

---

[35] *Binz Direct Test.* at 12:7-8. DEP witness Harrington submitted rebuttal testimony contending that SACE expert witness Binz made inaccurate statements "regarding underpayments made by . . . [DEP customers]," and future overpayments. *Rebuttal Testimony of Dana M. Harrington for Duke Energy Progress, LLC*, Docket No. E-2, Sub 1292, at 1:13-17 (Sept. 1, 2022). For the sake of clarity, SACE's position is not that DEP misused the experience modification factor. Rather, it is SACE's position that from the perspective of a DEP ratepayer, paying for an under-recovery would feel like an "overpayment" given that the underlying costs would have been incurred many months prior. Conversely, the fact that a DEP ratepayer did not pay those costs closer in time to when they were incurred might lead that ratepayer to believe it underpaid in the past.

[36] As set forth in N.C.G.S. § 62-133.2(a2), the "annual increase in the aggregate amount of [certain fuel and fuel-related costs] shall not exceed two and one-half percent (2.5%) of the electric public utility's total North Carolina retail jurisdictional gross revenues for the preceding calendar year." This restriction does not apply to fuel burn or fuel transportation costs. *Id.*

[37] *See Binz Direct Test.* at 14:4-7.

a return on used and useful gas plants and gas infrastructure that it owns.[38] Therefore, it is arguably in the interest of DEP shareholders for DEP to procure and burn as much gas as 62-133.2 will allow, even when there are cheaper and cleaner alternatives available.[39]

Due to the Company's reliance on gas, projected gas price increases in the Billing Period, and Test Period under-recoveries stemming from gas market volatility, DEP ratepayers' monthly bills will rise dramatically if DEP's fuel charge adjustment application is approved. On average, DEP customers will see an 8.7% increase in their monthly bills.[40] Accordingly, "[t]he increase in the monthly bill of a typical residential customer using 1,000 kilowatt hours per month would be $9.74, excluding the regulatory fee."[41] DEP's current reliance on gas, particularly if it is coupled with significant gas market volatility, could cause similar rate (and bill) increases going forward. Moreover, under current incentives, DEP projects *increased* reliance on gas in the near- to mid-term. Given these considerations, it is imperative that DEP minimize its fuel costs by using less gas.

### C. Renewables Reduce Ratepayer Exposure and Provide Valuable Grid Services

Additional physical "hedging" through the construction or procurement of fuel-free, renewable energy resources can help mitigate rate shock by reducing ratepayers' exposure to volatile gas price markets. Renewables are a prudent alternative to gas generation.[42]

Hedging generally involves employing financial instruments, such as derivatives, to mitigate exposure to asset price swings.[43] For example, in lieu of the traded price, a

[38] *Id.* at 13:10-11.
[39] *See id.* at 14:4-7.
[40] *Harrington Direct Test.* at 6:20-21.
[41] *Order Requiring Second Public Notice*, Docket No. E-2, Sub 1292, at 3 (Aug. 17, 2022).
[42] Harris Order at 252.
[43] *Hinton Direct Test.* at 8:4-5.

utility payor and counterparty might set a fixed price for gas in a fixed price swap, with the utility bearing a loss if the traded price were less than the fixed price and vice versa.[44] However, financial hedges "only protect[] against price swings – procurement of the assets is still needed."[45]

In contrast, physical hedging would not only result in procurement of the underlying asset or its equivalent, but also provide the payor with some protection from price swings.[46] A utility could purchase "natural gas at a certain price and place[] it into storage."[47] Alternatively, a utility could also enter into a long-term contract for gas.[48]

Another way a utility can hedge against the risk of fuel price increases is through the procurement of renewable energy resources as physical hedging products. Indeed, the Commission has previously recognized that renewable energy resources have fuel price hedging benefits:

> [R]enewable generation provides fuel price hedging benefits because a utility's purchase of energy from a [Qualifying Facility] reduces the amount of fuel the utility otherwise would need to purchase. In doing so, the Commission acknowledged that purchasing solar power can be seen as the equivalent of buying natural gas forwards. . . . the Commission finds that the evidence in this proceeding demonstrates again that there are fuel price hedging benefits associated with renewable generation. Purchases from QFs are substitutes for the purchase of fuels and reduce the amount of fuel that must be purchased and, therefore, the costs that the utilities would incur toward fuel procurement. . . . The Commission agrees with Cube Yadkin that the value of the hedge is to insulate ratepayers from fuel volatility, and that the hedge value is appropriate for inclusion in avoided cost rates.[49]

---

[44] *See id.* at 8:16-21, 9:1-3.
[45] *Id.* at 8:7-8.
[46] *See Binz Direct Test.* at Ex. 3, p. 45.
[47] *Id.*
[48] *Id.*
[49] *Order Establishing Standard Rates and Contract Terms for Qualifying Facilities*, Docket No. E-100, Sub 158, at 61 (April 15, 2020).

Given that renewables like solar generation paired with storage (solar plus storage) can be dispatched and have zero fuel costs, they too can be used to physically hedge gas.[50] In particular, solar plus storage is already cost competitive with gas combustion turbines.[51] Additionally, relying on renewables and storage in lieu of building new gas plants reduces the stranded asset risk associated with gas plants.[52] In sum, renewables provide optimal hedging value because they have no fuel price(s) and few variable costs and are therefore a prudent alternative to gas generation.

## CONCLUSION

For the foregoing reasons, Southern Alliance for Clean Energy respectfully requests the following relief:

(1) That the Commission direct the Company to detail the quantifiable benefits that accrue to DEP ratepayers as a result of DEP's renewable energy physical hedging in its periodic hedging reports going forward, and to make these reports, or redacted versions if necessary, available to both the Commission and general public going forward.

(2) Such further relief as the Commission may deem proper.

Respectfully submitted this the 14th day of October, 2022.

/s/ Gudrun Thompson
Gudrun Thompson
N.C. Bar No. 28829
gthompson@selcnc.org

[50] *See Binz Direct Test.* at 19:1-3.
[51] *Id.*
[52] *Id.* at 18:19-20, 19:1.

Munashe Magarira
N.C. Bar No. 47904
mmagarira@selcnc.org

Southern Environmental Law Center
601 West Rosemary Street, Suite 220
Chapel Hill, NC 27516
Telephone: (919) 967-1450
Fax: (919) 929-9421

*Attorneys for Southern Alliance for Clean Energy*

**CERTIFICATE OF SERVICE**

I certify that all parties of record have been served with the foregoing Post-Hearing Brief of the Southern Alliance for Clean Energy either by electronic mail or by deposit in the U.S. Mail, postage prepaid.

This the 14th day of October, 2022.

/s/ Gudrun Thompson
Gudrun Thompson