

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-2, SUB 1204

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of
Application of Duke Energy Progress, LLC) ORDER APPROVING INTERIM
Pursuant to N.C.G.S. § 62-133.2 and) FUEL CHARGE ADJUSTMENT,
Commission Rule R8-55 Relating to Fuel) REQUIRING FURTHER
and Fuel-Related Charge Adjustments) TESTIMONY, AND
for Electric Utilities) SCHEDULING HEARING

HEARD: Monday, September 9, 2019, at 2:00 p.m., and Tuesday, September 10,
 2019, at 9:00 a.m., in Commission Hearing Room 2115, Dobbs Building,
 430 North Salisbury Street, Raleigh, North Carolina

BEFORE: Commissioner Charlotte A. Mitchell, Chair; Commissioner ToNola D.
 Brown-Bland,¹ Commissioner Lyons Gray, and Commissioner Daniel G.
 Clodfelter

APPEARANCES:

For Duke Energy Progress, LLC:

Jack E. Jirak, Esq., Duke Energy Corporation, P.O. Box 1551 / NCRH 20,
Raleigh, NC 27602

Dwight Allen, Esq., Allen Law Offices, PLLC, 1514 Glenwood Ave., Suite
200, Raleigh, North Carolina 27608

For Carolina Utility Customer Association, Inc.:

Robert F. Page, Esq., Crisp & Page, PLLC, 4010 Barrett Drive, Suite 205,
Raleigh, North Carolina 27609-6622

¹ Commissioner Brown-Bland was unable to attend the portion of the hearing held on Tuesday morning, September 10, 2019. The parties stated that they did not object to Commissioner Brown-Bland participating in the decision in this docket.

For North Carolina Sustainable Energy Association:

Benjamin W. Smith, Esq., 4800 Six Forks Road, Suite 300, Raleigh, North, Carolina 27609

For Carolinas Industrial Group for Fair Utility Rates II:

Ralph McDonald, Esq., Bailey & Dixon, L.L.P., Post Office Box 1351, Raleigh, North Carolina 27602

For Fayetteville Public Works Commission:

James P. West, Esq., Fayetteville Public Works Commission, Post Office Box 1089, Fayetteville, North Carolina 28302-1089

For Sierra Club:

Gudrun Thompson, Esq., Tirrill Moore, Esq., Southern Environmental Law Center, 601 West Rosemary Street, Suite 220, Chapel Hill, NC 27516

For the Using and Consuming Public:

Dianna Downey, Esq., Public Staff, North Carolina Utilities Commission, 4326 Mail Service Center, Raleigh, North Carolina 27699-4300

BY THE COMMISSION: On June 11, 2019, Duke Energy Progress, LLC (Duke Energy Progress, DEP, or the Company), filed an application pursuant to N.C. Gen. Stat. § 62-133.2 and Commission Rule R8-55 regarding fuel and fuel-related cost adjustments for electric utilities, along with the testimony and exhibits of Dana M. Harrington, Brett Phipps, Regis Repko, Kenneth D. Church, and Kelvin Henderson.

Petitions to intervene were filed by the North Carolina Electric Membership Corporation (NCEMC) on June 24, 2019, Fayetteville Public Works Commission (FPWC) on July 1, 2019, Carolina Utility Customers Association, Inc. (CUCA) on July 22, 2019, Sierra Club on August 1, 2019, North Carolina Sustainable Energy Association (NCSEA) on August 9, 2019, and Carolina Industrial Group for Fair Utility Rates II (CIGFUR) on August 19, 2019. The Commission granted NCEMC's and FPWC's petitions to intervene on July 2, 2019, CUCA's petition to intervene on July 24, 2019, NCSEA's petition to intervene on August 13, 2019, Sierra Club's petition to intervene on August 15, 2019, and CIGFUR's petition to intervene on August 20, 2019. The intervention of the Public Staff is recognized pursuant to N.C. Gen. Stat. § 62-15(d) and Commission Rule R1-19(e).

On June 20, 2019, the Commission entered an Order Scheduling Hearing, Requiring Filing of Testimony, Establishing Discovery Guidelines, and Requiring Public Notice. Among other things, the Order provided that direct testimony of intervenors

should be filed on or before August 19, 2019, that rebuttal testimony should be filed on or before August 28, 2019, and that a hearing on this matter would be held on September 9, 2019.

On August 15, 2019, DEP filed the supplemental testimony and exhibits of witness Harrington and based on an update of its fuel and fuel-related costs through June 30, 2019, DEP requested an increase in the fuel rates initially included in its application.

On August 23, 2019, DEP filed a request to publish a Second Public Notice. By Order dated August 26, 2019, the Commission required DEP to publish a Second Customer Notice. On September 6, 2019, and September 13, 2019, DEP filed affidavits of publication indicating that public notices had been provided in accordance with the Commission's procedural orders.

On August 19, 2019, the Public Staff filed the testimony of Jay B. Lucas, Jenny X. Li, and Dustin R. Metz, in accordance with N.C. Gen. Stat. § 62-68.

On August 28, 2019, the Company filed the rebuttal testimony of Kelvin Henderson and the joint rebuttal testimony of Barbara Coppola and John Halm.

On September 5, 2019, the Public Staff filed a motion requesting that Public Staff witnesses Li and Metz be excused from appearance at the expert witness hearing, and DEP filed a motion requesting that DEP witnesses Regis Repko, Kenneth D. Church, and Kelvin Henderson, be excused from appearance at the expert witness hearing, representing that all parties to the proceeding had agreed to waive cross-examination of the witnesses. On September 6, 2019, the Commission granted the motion, excusing DEP witnesses Repko, Church, and Henderson, and Public Staff witnesses Li and Metz from appearing at the expert witness hearing.

The case came on for hearing as scheduled on September 9 and 10, 2019. The application, prefiled direct, supplemental and rebuttal testimony and exhibits of DEP's witnesses and the prefiled direct testimony of the Public Staff's witnesses were received into evidence.

On November 4, 2019, DEP filed a proposed order and brief. The Public Staff and Sierra Club each filed a brief.

On November 20, 2019, DEP filed a motion stating that it had inadvertently not moved into evidence the prefiled rebuttal testimony of DEP witness Henderson during the hearing, and requesting that the Commission issue an order receiving witness Henderson's rebuttal testimony into the record and amending the transcript to include said testimony.

On November 21, 2019, the Commission issued an Order receiving into evidence the prefiled rebuttal testimony of witness Henderson, and directing the court reporter to amend Volume 1 of the transcript to include said testimony.

Based upon the Company's verified application, the testimony and exhibits received into evidence at the hearing, and the record as a whole, the Commission makes the following:

FINDINGS OF FACT

1. Duke Energy Progress is a duly organized corporation existing under the laws of the State of North Carolina, is engaged in the business of developing, generating, transmitting, distributing, and selling electric power to the public in North Carolina, and is subject to the jurisdiction of the Commission as a public utility. Duke Energy Progress is lawfully before this Commission based upon its application filed pursuant to N.C. Gen. Stat. § 62-133.2.

2. The test period for purposes of this proceeding is the 12 months ended March 31, 2019 (test period).

3. Commission Rule R8-55(d)(3) allows the Company to update the fuel and fuel-related cost recovery balance up to thirty (30) days prior to the hearing. The Company elected this option and supplemented the direct testimony and exhibits to include the fuel and fuel-related cost recovery balance as of the 15 months ended June 30, 2019.

4. In its application, direct testimony, and exhibits in this proceeding, DEP requested a total decrease of \$89 million to its North Carolina retail revenue requirement associated with fuel and fuel-related costs, excluding the regulatory fee. The fuel and fuel-related cost factors requested by DEP included an Experience Modification Factor (EMF) to take into account fuel and fuel-related cost under-recoveries experienced during the test period, with an overall under-recovery of \$110 million experienced during the test period.

5. In its direct supplemental testimony and exhibits in this proceeding, DEP updated its requested decrease in the North Carolina retail revenue requirement associated with fuel and fuel-related costs, excluding the regulatory fee, to \$47 million, which included an updated under-recovery of \$151 million through the period ending June 30, 2019.

6. The Company's appropriate North Carolina retail jurisdictional fuel and fuel-related expense under-collection for purposes of the EMF is \$143,775,161, consisting of under-recoveries of \$59,835,706, \$3,842,749, \$24,006,222, \$54,214,580, and \$1,875,903, for the Residential, Small General Service, Medium General Service, Large General Service, and Lighting classes, respectively.

7. Gypsum is a by-product produced in the electric generation process and the input leading to gypsum is coal.

8. The Company entered a long-term agreement to sell gypsum to BPB NC, Inc. (BPB) in 2004. CertainTeed Gypsum NC, Inc. (CTG) is the successor-in-interest to BPB.

9. Under the agreement, CTG was obligated to construct a wallboard manufacturing facility adjacent to DEP's Roxboro coal-fired generation plant and committed to purchase substantial amounts of gypsum from the Roxboro and Mayo plants (Roxboro units).

10. The initial agreement included a liquidated damages provision. The initial agreement was amended on a number of occasions—ultimately resulting in the Second Amended and Restated Supply Agreement—but the liquidated damages provision was an essential part of the agreement and remained substantially unchanged from the initial agreement through to the Second Amended and Restated Supply Agreement (Gypsum Supply Agreement).

11. In light of CTG's substantial capital investment in its wallboard manufacturing facility adjacent to the Roxboro plant, one purpose of the liquidated damages provision was to provide CTG with certainty regarding the damages it would be entitled to recover in the event that DEP was unable to supply the full amount of gypsum required under the Gypsum Supply Agreement.

12. The evidence tends to show that the amount of gypsum produced by the Roxboro units substantially declined due to lower natural gas prices that decreased DEP's use of coal-fired generation, and several other factors.

13. As a result of the decrease in generation by the Roxboro units, the Company was unable to meet the monthly minimum delivery obligations under the Gypsum Supply Agreement.

14. In litigation filed by CTG against DEP in the North Carolina Business Court (Court) for breach of the Gypsum Supply Agreement, the Court entered a Judgment finding DEP liable for breach of the contract. The Court ordered DEP to pay actual damages to CTG for gypsum not delivered, and to meet its future contract obligations.

15. In light of the options available to the Company under the Gypsum Supply Agreement and the Court's Judgment, the Company discontinued supply under the Gypsum Supply Agreement, after providing some gypsum for a limited period of time and in limited amounts under a replacement agreement, and paid CTG liquidated damages rather than delivering replacement gypsum.

16. The actual damages and liquidated damages paid and to be paid by DEP under the Gypsum Supply Agreement are part and parcel of the sale of gypsum that was agreed upon by DEP and CTG in the Gypsum Supply Agreement.

17. If DEP's decisions and actions in connection with the Gypsum Supply Agreement with CTG were reasonable and prudent, then DEP's payments of liquidated damages to CTG can be recovered as fuel-related costs pursuant to N.C.G.S. § 62-133.2(a1)(9).

18. The evidence of record is insufficient to enable the Commission to determine whether DEP's decisions and actions in connection with the Gypsum Supply Agreement with CTG were prudent and reasonable. As a result, it is appropriate for the Commission to receive additional evidence and hold a further hearing on the issue of whether DEP's decisions and actions in connection with the Gypsum Supply Agreement with CTG were prudent and reasonable.

19. The evidence of record is sufficient to enable the Commission to set rates for DEP's interim fuel cost recovery based on DEP's fuel and fuel-related costs other than the actual damages and liquidated damages paid and to be paid by DEP under the Gypsum Supply Agreement.

20. For the purpose of setting DEP's interim fuel cost recovery, DEP's proposed test year N.C. retail fuel and fuel-related costs should be adjusted by removing liquidated damages in the amount of \$6,640,945 and removing the judgment payment in the amount of \$619,200 for purposes of determining the under-recovery and EMFs. Further, DEP's proposed and projected N.C. retail fuel and fuel-related costs must be adjusted by removing \$5,181,120 for such costs for the purposes of determining the prospective fuel and fuel-related factors for the billing period.

21. The Company's baseload plants were generally managed prudently and efficiently during the test period so as to minimize fuel and fuel-related costs.

22. The decisions and actions of DEP in connection with the outage at the H.B. Robinson Nuclear Station Plant (Robinson plant) in the fall of 2018 for refueling (Robinson Refueling Outage) were prudent and reasonable. The outage extension resulted from causes beyond the control of the Company, including a shortage of qualified labor resources, which was exacerbated by extensive hurricane activity that occurred during the period of the outage.

23. It is appropriate for DEP to recover the replacement power costs resulting from the Robinson Refueling Outage, including the extended period of the outage.

24. The Company's fuel and reagent procurement and power purchasing practices during the test period were reasonable and prudent. However, given DEP's increased reliance on natural gas and the resulting increased risk of under-recoveries if natural gas prices are not forecasted as accurately as possible, the Company should evaluate historic price fluctuations and whether its current method of forecasting and hedging programs should be adjusted to mitigate the risk of significant under-recovery of fuel costs. The Company shall report the results of this evaluation in the next fuel proceeding.

25. The test period per book system sales are 62,568,164 megawatt-hours (MWh). The test period per book system generation and purchased power is 70,945,428 MWh (net of auxiliary use) and is categorized as follows:

<u>Net Generation Type</u>	<u>System MWh Generated</u>
Coal	8,081,365
Natural Gas, Oil, and Biomass	23,239,469
Nuclear	27,748,149
Hydro – Conventional	848,406
Solar	227,472
Purchased Power – subject to economic dispatch or curtailment	5,601,750
Other Purchased Power	<u>5,198,817</u>
Total Net Generation (may not add to sum due to rounding)	70,945,428

26. The North Carolina retail test period sales, adjusted for customer growth and weather, for use in calculating the EMF are 37,693,746 MWh. The adjusted North Carolina retail customer class MWh sales are as follows:

<u>N.C. Retail Customer Class</u>	<u>Adjusted NC Retail MWh Sales</u>
Residential	16,022,203
Small General Service	1,941,728
Medium General Service	11,007,307
Large General Service	8,368,542
Lighting	<u>353,965</u>
Total (may not add to sum due to rounding)	37,693,746

27. The appropriate nuclear capacity factor for use in this proceeding is 94.62%.

28. The projected billing period system generation and purchased power for use in this proceeding in accordance with projected billing period system sales is 71,517,770 MWh and is categorized as follows:

<u>Generation Type</u>	<u>Projected System MWh</u>
<u>Generated</u>	
Coal	11,131,286
Gas Combined Cycle (CC) and Combustion Turbine (CT)	22,185,181
Nuclear	29,713,146
Hydro	648,112
Solar	279,675
Purchased Power	<u>7,560,370</u>
Total (may not add to sum due to rounding)	71,517,770

29. The projected billing period (December 2019 - November 2020) sales for use in this proceeding are 62,155,919 MWh on a system basis and 38,091,457 MWh on a North Carolina retail basis. The projected billing period North Carolina retail customer class MWh sales are as follows:

<u>N.C. Retail Customer Class</u>	<u>Projected NC Retail MWh Sales</u>
Residential	16,265,079
Small General Service	1,806,876
Medium General Service	10,414,506
Large General Service	9,223,825
Lighting	<u>381,171</u>
Total (may not add to sum due to rounding)	38,091,457

30. The appropriate fuel and fuel-related prices and expenses for use in this proceeding to determine projected system fuel expense are as follows:

- A. The coal fuel price is \$31.35/MWh.
- B. The gas CC and CT fuel price is \$26.68/MWh.
- C. The appropriate expense for ammonia, lime, limestone, urea, dibasic acid, sorbents, and catalysts consumed in reducing or treating emissions (collectively, Reagents) is \$26,265,057.
- D. The total nuclear fuel price is \$6.17/MWh.
- E. The total system purchased power cost (including the impact of Joint Dispatch Agreement (JDA) Savings Shared and the impact of House Bill 589, N.C. Sess. L. 2017-192, is \$442,407,406.
- F. System fuel expense recovered through intersystem sales is \$161,032,005.

31. The projected fuel and fuel-related costs for the North Carolina retail jurisdiction for use in this proceeding are \$878,210,565.

32. The decrease in customer class fuel and fuel-related cost factors from the amounts approved in Docket No. E-2, Sub 1173 should be allocated among the rate classes on a uniform percentage basis, using the uniform bill adjustment methodology that was approved by the Commission in that docket.

33. The appropriate prospective fuel and fuel-related cost factors for this proceeding for each of DEP's rate classes, excluding the regulatory fee, are as follows: 2.326¢/kilowatt-hour (kWh) for the Residential class; 2.499¢/kWh for the Small General Service class; 2.456¢/kWh for the Medium General Service class; 2.054¢/kWh for the Large General Service class; and 2.217¢/kWh for the Lighting class.

34. The appropriate EMF riders established in this proceeding, excluding the regulatory fee, are as follows: 0.373¢/kWh for the Residential class; 0.198¢/kWh for the Small General Service class; 0.218¢/kWh for the Medium General Service class; 0.648¢/kWh for the Large General Service class; and 0.530¢/kWh for the Lighting class.

35. The coal inventory rider established in Ordering Paragraph 12 of the Commission's February 23, 2018 Order Accepting Stipulation, Deciding Contested Issue and Granting Partial Rate Increase in Docket No. E-2, Sub 1142 expired in October 2018 and was removed from billed rates on December 1, 2018. Additional amounts collected through January 2019 further reduced the under-collected balance and interest on the under-collected balance was calculated through November 30, 2019. The under-collected balance of \$257,250 is included in the EMF.

36. The total net fuel and fuel-related cost factors for this proceeding for each of DEP's rate classes, excluding the regulatory fee, are as follows: 2.699¢/kWh for the Residential class, 2.697¢/kWh for the Small General Service class, 2.674¢/kWh for the Medium General Service class, 2.702¢/kWh for the Large General Service class, and 2.747¢/kWh for the Lighting class.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 1

This finding of fact is essentially informational, procedural, and jurisdictional in nature and is uncontroverted.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 2

North Carolina General Statute § 62-133.2(c) sets out the verified, annualized information that each electric utility is required to furnish to the Commission in an annual fuel and fuel-related cost adjustment proceeding for a historical 12-month test period. Commission Rule R8-55(b) prescribes the 12 months ending March 31 as the test period for DEP. The Company's initial filing and direct testimony in this proceeding was based on the 12 months ended March 31, 2019.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 3

Commission Rule R8-55(d)(3) allows the Company to update the fuel and fuel-related cost recovery balance up to thirty (30) days prior to the hearing. The Company elected this option and supplemented the direct testimony and exhibits to include the fuel and fuel-related cost recovery balance as of the 15 months ended June 30, 2019.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 4 - 20

The evidence for these findings of fact is contained in the application, the direct testimony and supplemental direct testimony of Company witness Harrington, the direct testimony and exhibits of Public Staff witnesses Jay B. Lucas and Jenny X. Li, and the rebuttal testimony of Company witnesses Coppola and Halm.

In its application and testimony in this proceeding, DEP requested a total decrease of \$89 million to its North Carolina retail revenue requirement associated with fuel and fuel-related costs, excluding the regulatory fee. The fuel and fuel-related cost factors

requested by DEP included an Experience Modification Factor (EMF) to take into account fuel and fuel-related cost under-recoveries experienced during the test period. On Harrington Exhibit 3, Pages 1-6, Company witness Harrington proposed fuel and fuel-related cost under-recoveries of \$110 million experienced during the test period through the reporting date of March 31, 2019.

Test Period through March 31, 2019

<u>N.C. Retail Customer Class</u>	<u>Under - Recovery</u>
Residential	\$40,376,037
Small General Service	2,324,536
Medium General Service	18,739,830
Large General Service	46,571,176
Lighting	<u>1,539,374</u>
Total (may not add to sum due to rounding)	\$109,550,954

In the direct supplemental testimony and exhibits of Company witness Harrington, DEP updated its North Carolina retail revenue requirement associated with fuel and fuel-related costs, excluding the regulatory fee, to a total decrease of \$47 million through June 30, 2019. Revised Harrington Exhibit 3, Pages 1 - 6, reflect updated EMFs to recover an under-recovery of \$151 million as of June 30, 2019. The updated total adjusted system fuel and fuel-related expense, based in part on the use of these amounts, is utilized to calculate the prospective fuel and fuel-related cost factors recommended by the Company.

Test Period updated through June 30, 2019

<u>N.C. Retail Customer Class</u>	<u>Under - Recovery</u>
Residential	\$63,138,790
Small General Service	4,209,287
Medium General Service	26,020,608
Large General Service	55,725,485
Lighting	<u>1,941,135</u>
Total (may not add to sum due to rounding)	\$151,035,306

In her testimony, Public Staff witness Li stated that, based on the testimony and recommendation of Public Staff witness Lucas, she recommended removing North Carolina's retail share of the cash payments made to CTG for liquidated damages in the amount of \$6,640,945 million and North Carolina's retail share of the CTG judgment payment in the amount of \$619,200 from the test period costs. Following these adjustments, Public Staff witness Li recommended the following under-recovery amounts by North Carolina retail customer class as follows:

Test Period updated through June 30, 2019

<u>N.C. Retail Customer Class</u>	<u>Under - Recovery</u>
Residential	\$59,835,706
Small General Service	3,842,749
Medium General Service	24,006,222
Large General Service	54,214,580
Lighting	<u>1,875,903</u>
Total (may not add to sum due to rounding)	\$143,775,160

The issue presented by the testimony of Public Staff witness Lucas and addressed in the adjustments made by Public Staff witness Li revolves around an agreement entered into in 2004 between DEP's predecessor, Progress Energy Carolinas, Inc., and BPB NC, Inc. (BPB) for the sale of synthetic gypsum from the Roxboro and Mayo plants to BPB for the manufacture of wallboard. Tr. Vol. 2, p. 61. Witness Lucas testified that gypsum is a mineral that is the primary component of gypsum wallboard and can be mined in its natural state, and that synthetic gypsum is a suitable substitute and is a by-product of the flue gas desulfurization (FGD) equipment installed at some coal-fired plants, including DEP's Roxboro and Mayo coal-fired power plants (Roxboro units). Id. at 60-61. He stated that the Roxboro plant consists of four generating units with a total capacity of 2,462 MW (winter rating), and the Mayo plant has one generating unit with a capacity of 746 MW (winter rating), and that both of these plants are located in Person County, approximately 16 road miles apart. Id.

Witness Lucas testified that in order to mitigate the cost of disposing of the gypsum produced in the FGD process, in 2004 DEP executed a contract with BPB for the future sale of artificial gypsum from the Roxboro units to BPB for the manufacture of gypsum board. He stated that in 2005, BPB acquired approximately 121 acres of land from DEP adjacent to the Roxboro plant with the intent of constructing a gypsum board manufacturing facility. Also in 2005, CertainTeed's parent company, Saint-Gobain North America, bought BPB and merged it with the existing CertainTeed operations. According to witness Lucas, CertainTeed (CTG) delayed construction of the wallboard manufacturing facility due to the housing market decline and economic downturn (Great Recession). In late 2007, CTG contacted DEP in an effort to amend the 2004 agreement and to maintain the supply of artificial gypsum in the future. Id. at 61-62.

Witness Lucas testified that in 2008 DEP and CTG executed an Amended and Restated Supply Agreement that made refinements to the 2004 contract, and that CTG began accepting artificial gypsum from DEP on May 1, 2009, but transported it to other locations because the CTG facility adjacent to the Roxboro plant had not yet been completed. The CTG facility at the Roxboro plant began operation on March 28, 2012. Id. at 62.

Witness Lucas further testified that in August 2012, DEP and CTG executed a Second Amended and Restated Supply Agreement (Gypsum Supply Agreement). FPWC Harrington Confidential Cross-Exam Exhibit No. 1. He stated that two key provisions of

the Gypsum Supply Agreement were that DEP would provide 50,000 tons of gypsum per month to CTG and would maintain a gypsum stockpile of 250,000 tons. Id.

Witness Lucas testified that several factors led to the reduced dispatch of the Roxboro units, and as a result, the amount of gypsum produced by the plants was below the minimum amounts required by the Gypsum Supply Agreement. He stated that the first factor was a result of the merger between Duke Energy Corporation and Progress Energy, Inc. Following that merger the two companies entered into a Joint Dispatch Agreement (JDA) which facilitated the energy purchases between Duke Energy Carolinas, LLC (DEC), and DEP and thereby enabled the two companies to optimize the efficient dispatch of their combined generating fleets. Witness Lucas explained that the JDA allowed DEC to sell cheaper energy to DEP when not needed for DEC's own use. As a result DEP's Roxboro units operated less often than before the merger. Id. at 63. The second factor enumerated by witness Lucas was the significant and continuous decline in natural gas prices after 2009. He stated that natural gas prices have not approached the 2009 prices since that time. According to witness Lucas, this decline in natural gas prices resulted in utilities dispatching natural gas-fired combined cycle plants (CCs) ahead of coal-fired units such as those at Roxboro. A third factor discussed by witness Lucas was the conversion of DEC and DEP from coal-fired generation to natural gas-fired generation. As an example, he cited the dates of commercial operation of DEC's Buck CC in 2011 and Dan River CC in 2012, and DEP's H.F. Lee CC in 2012, and Sutton CC in 2013. Witness Lucas stated that the reduced dispatch of coal generating plants resulting from these factors caused DEP to burn less coal at the Roxboro units resulting in the inability of DEP to provide the quantities of gypsum that CTG contracted for and anticipated when it built the wallboard manufacturing facility next to the Roxboro plant. Id. at 63-64.

Public Staff witness Lucas testified that on June 30, 2017, CTG filed a breach of contract action against DEP in the North Carolina Business Court. See Opinion and Final Judgment, CertainTeed Gypsum NC, Inc. v. Duke Energy Progress, LLC, 17 CVS 395 (Person County), 2018 NCBC 90 (CTG v. DEP); FPWC Harrington Cross-Exam Exhibit No. 3. In the lawsuit CTG contended that the Gypsum Supply Agreement required DEP to deliver 50,000 tons every month, with a 10% variance up or down, and with the variance being made up over each 12-month period of the calendar year. DEP defended by contending that the Gypsum Supply Agreement allowed DEP to deliver a flexible amount of gypsum to CTG, based on the actual production of the Roxboro units. On August 28, 2018, the Court ruled in CTG's favor and ordered DEP to pay \$1,084,216 to cover CTG's cost of replacement gypsum from May 2017 through January 2018, and to provide a replenishment plan for meeting the contract requirements within 90 days. Id. Witness Lucas testified that after the Court ruled against DEP that DEP and CTG reached a settlement. The settlement included DEP's payment of the actual damages amount ordered by the Court, and DEP's payment of liquidated damages as stipulated in the Gypsum Supply Agreement. Tr. Vol. 2, p. 65-66. The terms of the settlement agreement were filed by DEP with the Commission under seal as a confidential trade secret. The settlement agreement was introduced into evidence as FPWC Confidential Harrington Cross-Exam Exhibit No. 4.

Witness Lucas testified that the Public Staff recommends that the Commission deny DEP's request for the recovery of the liquidated damages and judgment payment costs in this proceeding because they are not appropriate for recovery in a fuel proceeding. The Public Staff's position is that the failure to deliver the required amount of gypsum and the resulting expenses arising from the legal action taken against DEP by CTG do not constitute a "sale" of by-products under the provisions of N.C. Gen. Stat. § 62-133.2(a1)(9). Witness Lucas stated that, in his opinion, the more appropriate proceeding in which to consider these costs is a general rate case. In addition witness Lucas testified that the Public Staff has concerns about the prudence and reasonableness of the actual damages and liquidated damages as a recoverable cost, but that it had not undertaken a prudence and reasonableness analysis of the costs. Tr. Vol. 2, p. 68-69 and 75-76.

In her pre-filed direct testimony DEP witness Harrington testified that liquidated damages incurred in connection with the Gypsum Supply Agreement are properly recovered in fuel rates based on the Company's understanding of N.C. Gen. Stat. § 62-133.2(a1)(9). Tr. Vol. 1, p. 97. The statute specifies that "cost of fuel and fuel-related costs shall be adjusted for any net gains or losses resulting from any sales by the electric public utility of by-products produced in the generation process to the extent the costs of the inputs leading to that by-product are costs of fuel or fuel-related costs." According to witness Harrington the Company's position is that the liquidated damages in this case are properly included in the calculation of the aggregate net gain/loss on the sale of by-products because the liquidated damages provision was an essential commercial term of a larger sales transaction that was reasonably and prudently entered into by the Company for the benefit of customers. Witness Harrington testified that due to changes in coal consumption over time driven by lower natural gas prices, the Company was not able to meet the minimum gypsum supply obligations as originally contemplated by the parties to the Gypsum Supply Agreement. Nevertheless, witness Harrington stated that the Company's decision to enter into the arrangement was reasonable and prudent and the transaction as a whole still provided a benefit to customers. Id. She testified that the Company proposes to recover the liquidated damages on a cash basis rather than an accrual basis, and that the NC retail share of these costs is reflected in the test period under-collection balance of \$146.8 million, but the Company believes that it is more equitable to customers to recover these costs as the amounts are paid, rather than when the liability first accrued. Id. at 96.

In their rebuttal testimony DEP witnesses Coppola and Halm stated that in assessing whether a loss occurred for purposes of determining the recoverability under N.C. Gen. Stat. § 62-133.2(a1)(9), it is necessary to look at the entire flow of revenue and costs under the Gypsum Supply Agreement. Tr. Vol. 2, p. 149. According to witnesses Coppola and Halm from that perspective DEP experienced a "net loss" because the amount of costs incurred by the Company due to its obligations under the Gypsum Supply Agreement exceeded the amount of revenue received by DEP under that agreement. Id. That is, DEP sold a substantial amount of gypsum to CTG for which DEP received revenue of approximately \$24.3 million and was also obligated to pay liquidated damages

and other costs totaling approximately \$90 million. Therefore, with respect to the Gypsum Supply Agreement and the sale of gypsum thereunder, they contended that DEP has experienced a net loss. Id. at 149-150.

DEP witnesses Coppola and Halm, like Public Staff Witness Lucas, discussed the numerous changes in circumstances over the approximately 15-year time period that resulted in the reduced dispatch of the Roxboro units. Witnesses Coppola and Halm testified that the Company considered all reasonable avenues, including further litigation, but ultimately determined that discontinuing supply under the Gypsum Supply Agreement and paying the liquidated damages was the most prudent and reasonable course for customers. In their view each and every decision that the Company made was reasonable and prudent given what was known or reasonably should have been known at the time the decision was made. Id. at 153-156

In responding to the testimony of Public Staff Witness Lucas, DEP witnesses Coppola and Halm noted that witness Lucas made no attempt to identify any decision or action by the Company that may have been imprudent. Id. at 148. They further noted that the Company provided four sets of data responses with thousands of pages of documents to the Public Staff on this question, which they contended should have been sufficient for the Public Staff to assess the reasonableness and prudence of the Company's actions. Id. at 149.

DEP witnesses Coppola and Halm also testified that liquidated damages are a common commercial term by which parties allocate risks of non-performance under various types of contracts. The Company contends that the Public Staff's interpretation of N.C. Gen. Stat. § 62-133.2(a1)(9) would incent the Company to avoid liquidated damages provisions and instead allocate risk through more indirect means that may not be as optimal for the Company or its customers. Id. at 151.

Witnesses Coppola and Halm also reviewed several previous dockets in which the Commission had permitted the recovery of liquidated damages through fuel rates. Id. at 152. They also noted that CTG was investing approximately \$200 million to construct a wallboard production facility near the Roxboro plant and that it was therefore necessary for the contract to contain a minimum delivery obligation. This delivery obligation was backed and reinforced by the liquidated damages provision. Id. at 155. According to Witnesses Coppola and Halm, however, the liquidated damages provision also benefitted the Company and customers by limiting and defining liability in the event that the supply of gypsum was discontinued altogether. Further, they testified that although the Company could have chosen to continue the Gypsum Supply Agreement by obtaining gypsum from another source, such a decision would have resulted in higher costs to the Company and its customers. Id. at 154.

While acknowledging that prudence decisions are evaluated based on what was known or should have been known at the time the decision was made, witnesses Coppola and Halm noted that the Company had performed two hindsight analyses in order to put the results of the transaction in proper context. Id. at 157. According to witnesses Coppola

and Halm, the first analysis showed that customers saved approximately \$134 million in fuel costs between 2016 and 2018 alone by displacing Roxboro and Mayo coal-fired generation with natural gas-fired generation, and the second showed an overall benefit to customers of \$55 million of estimated avoided disposal costs without even attempting to take into account the savings resulting from lower-cost natural gas generation. Id. at 159-160. Witnesses Coppola and Halm also noted that the Public Staff, without acknowledging that the analysis was based on hindsight, had taken issue with the reasonableness of the gypsum disposal cost and stockpile management cost assumptions included in the second hindsight analysis. They agreed that the result of any analysis is dependent on what assumptions are made, but stated that there is evidence to suggest that the results of the analysis could have shown higher costs to customers because of the need for additional off-site landfills if all of the Roxboro and Mayo gypsum had required disposal. Id. at 160-161.

Discussion and Conclusions

The above evidence and the contrasting positions of DEP and the Public Staff present the Commission with two questions. The threshold question is whether the liquidated damages paid in connection with the Gypsum Supply Agreement constitute recoverable costs under the fuel adjustment clause. If so, then the second question is whether the decisions and actions of the Company in connection with the Gypsum Supply Agreement were reasonable and prudent.

Application of N.C. Gen. Stat § 62-133.2(a1)(9)

North Carolina General Statute § 62-133.2(a1) states:

As used in this section, “cost of fuel and fuel-related costs” means all of the following:

(9) Cost of fuel and fuel-related costs shall be adjusted for any net gains or losses resulting from any sales by the electric public utility of by-products produced in the generation process to the extent the costs of the inputs leading to that by-product are costs of fuel or fuel-related costs.

As DEP and the Public Staff acknowledge, it is well established that statutory interpretation begins with an examination of the plain words of the statute. Further, if the language of the statute is clear and unambiguous, the Commission must conclude that the legislature intended the statute to be implemented according to the plain meaning of its terms. Three Guys Real Estate v. Harnett County, 345 N.C. 468, 472, 480 S.E.2d 681, 683 (1997). In addition, when the language of a statute is clear and unambiguous, it must be given its plain and definite meaning, without imposing provisions and limitations not contained therein. Union Carbide Corp. v. Offerman, 351 N.C. 310, 526 S.E. 2d 167 (2000).

North Carolina General Statute § 62-133.2(a1)(9) contemplates the recovery of “net gains or losses resulting from any sales...” of generation by-products. It is undisputed that the Gypsum Supply Agreement was a contract for the sale of synthetic gypsum, which was a by-product of generating electricity from coal at the Roxboro units. Thus, the Commission determines that for purposes of the present issue the key words in N.C.G.S. § 62-133.2(a1) (9) are “resulting from any sales.”

The American Heritage Dictionary defines “resulting” as “To occur or exist as a consequence of a particular cause.” American Heritage Dictionary, at 1109 (Houghton Mifflin Co., 1978). DEP maintains that its obligation to pay liquidated damages “occurred or exists” as a consequence of the fact that DEP sold millions of tons of gypsum to CTG under the Gypsum Supply Agreement, and, therefore, the liquidated damages were the result of actual sales of gypsum. Further, DEP emphasizes the fact that the liquidated damages were negotiated as part of the original agreement for the sale of synthetic gypsum to CTG in 2004, and were included in all subsequent versions of the Agreement. Tr. Vol. 2, p. 150.

In addition, DEP witnesses Coppola and Halm cited three prior instances in which the Commission allowed the recovery of liquidated damages through the fuel clause. The first was in 2013, when DEP incurred and recovered through fuel rates \$10.6 million due to a tonnage shortfall under a railroad transportation contract in connection with the retirement of the Robinson and Sutton coal-fired generating units. The liquidated damages - referred to as “dead weight” charges - were incurred because DEP was not able to meet certain minimum contractual obligations under a CSX transportation contract. The Public Staff did not oppose DEP’s recovery of liquidated damages through the fuel clause in that proceeding. In the Commission’s Order the Company’s recovery of liquidated damages was specifically identified, albeit not discussed by the Commission. Order Approving Fuel Charge Adjustment, Docket No. E-2, Sub 1031, at 28 (November 25, 2013).

In 2014 DEP incurred and recovered through fuel rates \$10.5 million in liquidated damages due to a tonnage shortfall under another railroad contract in connection with the retirement of the Sutton coal-fired generating facility. The Public Staff entered into a Stipulation with DEP and did not oppose DEP’s recovery of liquidated damages through the fuel clause. The Commission approved the Stipulation without discussion of the inclusion of the liquidated damages. Order Approving Fuel Charge Adjustment, Docket No. E-2, Sub 1045, at 28 (November 19, 2014).

In 2019 Duke Energy Carolinas, LLC (DEC) incurred \$786,615 in liquidated damages due to a limestone tonnage shortfall. The Public Staff also did not oppose DEC’s recovery of the liquidated damages through the fuel clause. The Commission approved a fuel charge adjustment for DEC that included recovery of the liquidated damages without discussion of this cost. Order Approving Fuel Charge Adjustment, Docket No. E-7, Sub 1190 (August 7, 2019).

In all three of the above instances the liquidated damages were owed due to the failure of the utility to meet a minimum contractual obligation for the transportation of fuel or reagents. In all three cases payment was made because fuel or reagents were not being transported as contemplated by the transportation contract. (i.e., the utility was paying liquidated damages under a transportation agreement and not receiving transportation in return). Moreover, in the two DEP dockets the obligation to pay liquidated damages was caused by at least two of the same factors at play in this case - namely, the reduction in coal consumption caused by lower natural gas prices and the conversion from coal-fired generation to natural gas-fired generation. The Commission finds the above three examples of the recovery of liquidated damages through the fuel clause to be consistent with the Company's view that the liquidated damages in the present case are recoverable as fuel costs.

Nevertheless, the Commission does not rely on the above orders as binding precedent in the present case, mainly because the facts in those dockets involved liquidated damages paid under contracts for transportation costs, recoverable under N.C.G.S. § 62-133.2(a1)(2), rather than sales of by-products of electric generation under subsection (a1)(9). However, the Commission notes that subsection (a1)(9) provides even more latitude to include liquidated damages than does subsection (a1)(2), based on the inclusion of the phrase "net gains and losses." That is, if liquidated damages are properly recoverable as a "cost of fuel transportation" under subsection (a1)(2), then it is likewise reasonable to find that liquidated damages should be considered as part of the "net gains or losses" resulting from a sale of by-products under subsection (a1)(9). Further, the fact that the General Assembly specifically contemplated that a utility should be able to recover "net losses" as a fuel-related cost supports the intent of the statute to encourage sales of generation by-products, even though such sales might result in a net loss. Finally, there is no material difference in DEP's payment of liquidated damages resulting from its inability to meet its obligations under a contract for transportation services and DEP's payment of liquidated damages resulting from its inability to meet its obligations under a contract for the sale of synthetic gypsum.

In its post-hearing brief the Public Staff stated that the damages payment and the liquidated damages did not result from the sale of a by-product because no gypsum was exchanged for the payments, as one would otherwise expect in a "sale." Rather, the Company made the actual damages and liquidated damages payments because the Company failed to sell gypsum to CTG. According to the Public Staff, the payments are the antithesis of a sale and are not covered under the plain language of subdivision (a1)(9).

The Public Staff added that the only case in which the Commission has interpreted subdivision (a1)(9) is the Company's most recently concluded general rate case in Docket No. E-2, Sub 1142. In its Order dated February 23, 2018 in that case, the Commission found that the beneficial reuse of coal combustion residuals (CCRs), in and of itself and absent an actual sale, did not constitute the sale of a by-product under subdivision (a1)(9), and that the transaction between DEP and a third party (Charah) did not represent the sale of a by-product. Order Accepting Stipulation, Deciding Contested Issues and

Granting Partial Rate Increase, Docket No. E-2, Sub 1142 at pp. 215-16. (Sub 1142 Order) The Commission stated that “the record in this case does not support a finding that the costs associated with the Master Contract resulted from a ‘sale’ of CCRs.” Id. at 215. The Public Staff opined that the Commission’s analysis focused on the value and sale of an asset (CCRs). According to the Public Staff, the Commission determined that there was no sale of CCRs that availed the Company of cost recovery under subdivision (a1)(9), and, therefore, the Commission correctly declined to take an expansive view of subdivision (a1)(9) absent the transfer of an asset with value.

With respect to DEP’s argument that the liquidated damages should be recoverable through the fuel clause because the liquidated damages provision is an “essential term” of the contract, the Public Staff contended that this argument misses the point and ignores the plain language of the statute. According to the Public Staff, whether or not a counterparty would require different terms of a contract in the absence of a liquidated damages clause is speculative and presents no basis for disregarding the plain language of the statute. Likewise, whether a contract appropriately balances risk and obligations relates to the reasonableness of the contract terms, not the appropriate statutory basis (if any) for recovering costs incurred under that contract and is not a basis for disregarding the plain language of the statute.

Further, the Public Staff maintained that the Company’s functional argument that the Commission should “look at the flow of revenues and costs” fails for two reasons. First, as set forth above, this argument ignores the plain words of the statute. Second, the Company contradicted this position when its own witnesses acknowledged during cross-examination that not all of the costs under the Gypsum Supply Agreement are recoverable under subdivision (a1)(9). Thus, says the Public Staff, the Company is selective in the costs it seeks to recover through the fuel clause related to the Gypsum Supply Agreement, and adopting its position in this case would result in an arbitrary application of the statute.

The Commission concludes that the Public Staff’s reading of N.C.G.S. § 62-133.2(a1)(9) is too narrow because it would artificially isolate the liquidated damages payment from the underlying Gypsum Supply Agreement. Based on its plain words, the intent and spirit of the statute is to encourage public utilities to find ways to sell the by-products of electric generation, even though the sales may end up being at a net loss. As DEP’s witnesses testified, liquidated damages provisions are fairly standard clauses in commercial sales contracts. In the instant case, the Commission finds and concludes that the liquidated damages provisions were part and parcel of the Gypsum Supply Agreement. In that context, it would be unduly restrictive to conclude that DEP’s payments for actual and liquidated damages are not part and parcel of the sales made and contemplated to be made under the Gypsum Supply Agreement.

In addition the Public Staff’s reliance on the Charah contract interpretation in the Sub 1142 Order is not persuasive. The Commission concluded that the Charah contract costs were not recoverable under subsection (a1)(9) because the contract had no provision for the sale of CCRs from DEP to Charah. Rather, the contract was for the

transportation and disposal of CCRs as a waste product. There was no beneficial use or reuse of the ash wastes contemplated by the parties. In the Commission's view, N.C.G.S. § 62-133.2(a1)(9) was intended to extend to contracts involving the sale for beneficial use or reuse of by-products but not to include contracts for the disposal of waste products.

Based on the foregoing and the record, the Commission concludes that the actual damages and liquidated damages paid and to be paid by DEP under the Gypsum Supply Agreement constitute fuel-related costs under N.C. Gen. Stat. § 62-133.2(a1)(9), provided DEP's obligation to make such payments was reasonable and prudently incurred.

Prudence and Reasonableness

Having concluded that the liquidated damages in this case may qualify as fuel-related costs under N.C.G.S. 62-133.2(a1)(9), the Commission must next consider whether the Company's decisions and actions in connection with the CTG transaction were prudent and reasonable.

Pursuant to N.C.G.S. 62-133.2(d), in pertinent part:

[I]n 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...

[T]he burden of proof as to the correctness and reasonableness of the charge and as to whether the cost of fuel and fuel-related costs were reasonably and prudently incurred shall be on the utility.

Prudent is defined, in pertinent part, as "1. Wise in handling practical matters; exercising good judgment or common sense. 2. Careful in regard to one's own interests; provident." American Heritage Dictionary, at 1054 (Houghton Mifflin Co., 1978).

The prudence and reasonableness standard applied by the Commission is generally stated as:

[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 (citation omitted)...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. Perfection is not required. Hindsight analysis – the judging of events based on subsequent developments – is not permitted.

78 North Carolina Utilities Commission Orders and Decisions 238, at 251-52 (August 5, 1988); reversed in part, and remanded (on other grounds), Utilities Commission v. Thornburg, 325 N.C. 484, 385 S.E.2d 463 (1989).

As a general rule, if the utility presents evidence that costs were reasonably incurred and no additional evidence of prudence and reasonableness is presented, a prima facie case is made that the costs were reasonably incurred. State ex rel. Utilities Comm'n. v. Intervenor Residents, 305 N.C. 62, 76-77, 286 S.E.2d 770, 779, (1982). In the present case, although the Public Staff expressed no opinion on the prudence and reasonableness of the Gypsum Supply Agreement with CTG, witness Lucas testified that the Public Staff had concerns about the prudence and reasonableness of the actual damages and liquidated damages as a recoverable cost. Tr. Vol. 2, p. 68-69. More importantly, witness Lucas testified about three factors that led to the reduced dispatch of the Roxboro units: (1) the JDA, (2) the sustained decline in natural gas prices, and (3) DEP's and DEC's conversion from coal-fired generation to natural gas-fired generation. Id. at 62-64. According to witness Lucas:

The effect of low natural gas prices and the large increase in natural gas-fired CC capacity resulted in the Roxboro and Mayo power plants being dispatched less. The reduced dispatch resulted in less coal burned, resulting in the inability of DEP to provide the quantities of artificial gypsum that CertainTeed contracted for and anticipated when it built the gypsum board manufacturing facility next to the Roxboro plant.

Id. at 64.

The Commission takes note of the dates of the events described by witness Lucas as related to the date that DEP entered into the Gypsum Supply Agreement. First, the application for approval of the merger of Duke Energy Corporation and Progress Energy, Inc., was filed on April 4, 2011, in Docket Nos. E-2, Sub 998 and E-7, Sub 986. The proposed JDA was attached to the merger application as Exhibit No. 3. On June 29, 2012, the Commission issued its Order Approving Merger Subject to Regulatory Conditions and Code of Conduct (Merger Order). Second, as witness Lucas stated, the decline in natural gas prices began after 2009, and has persisted since that time. Third, witness Lucas testified that DEC's Buck CC began commercial operation in 2011, its Dan River CC began commercial operation in 2012, and DEP's H.F. Lee CC began commercial operation in 2012. All of these facts, plus the commercial operation of DEP's Sutton CC being on the horizon for 2013, were known to DEP when it entered into the Gypsum Supply Agreement with CTG on August 1, 2012. Nevertheless, DEP negotiated and signed a Gypsum Supply Agreement that committed DEP to deliver 50,000 tons of gypsum per month from the Roxboro plant through April 2029, and to maintain a gypsum stockpile of 250,000 tons for that same period of time.

In addition there are other facts in evidence that bear upon the issue of DEP's prudence and reasonableness in connection with the Gypsum Supply Agreement. For example, in the Business Court litigation, DEP took the position that its supply obligation was limited to the actual amount of gypsum produced at the Roxboro units. Opinion and Final Judgment (Judgment), CTG v. DEP, ¶ 13.a., at 5.

Another example of facts in evidence that bear upon the issue of DEP's prudence and reasonableness in connection with the Gypsum Supply Agreement is the Business Court's finding of fact that during negotiations for the Gypsum Supply Agreement CTG proposed shifting from a fixed supply contract to a variable supply agreement based on CTG's need for gypsum and DEP's production of gypsum, but DEP rejected this proposal. Judgment, Finding of Fact No. 71, at 24.

In their rebuttal testimony DEP witnesses Coppola and Halm testified to the conditions and factors that existed in 2002 as the basis for the original agreement with CTG, and opined that DEP's decision to enter into the original agreement was reasonable and prudent. However, witnesses Coppola and Halm did not address the three factors discussed by Public Staff witness Lucas – the JDA, the consistent decline in natural gas prices, and the conversion to natural gas-fired generation - that existed in 2012 when DEP entered into the revised Gypsum Supply Agreement with CTG. The Commission acknowledges that DEP's failure to respond to witness Lucas's testimony about those three factors may have been based on the fact that the Public Staff was not expressing an opinion on the prudence and reasonableness of DEP's decisions and actions in connection with the Gypsum Supply Agreement. On the other hand, the Public Staff's decision not to engage in a prudence analysis and express an opinion on prudence was based on its position that the liquidated damages were not a fuel cost recoverable in this proceeding, and that the issues surrounding their recovery should be addressed in DEP's pending general rate case.

The Commission concludes that because of the Public Staff's decision not to perform a prudence analysis and express an opinion on DEP's prudence surrounding the Gypsum Supply Agreement, and DEP's failure to address the factors raised by the testimony of witness Lucas, the issue of DEP's prudence in connection with the Gypsum Supply Agreement has not been fully joined. As a result, the evidence of record in this proceeding is not sufficient to enable the Commission to make a final decision on the issue of DEP's prudence and reasonableness in connection with the Gypsum Supply Agreement.

Based on the above-described circumstances, the Commission finds good cause to allow DEP the opportunity to present additional rebuttal testimony in response to a more precise analysis and expression of opinion by the Public Staff. As a result, the Commission will require that the Public Staff conduct an analysis of the prudence and reasonableness of DEP's decisions and actions in connection with the Gypsum Supply Agreement, including an analysis of the effects, if any, of the JDA, the consistent decline in natural gas prices, and the conversion to natural gas-fired generation. Further, the Commission will require the Public Staff to file testimony explaining its analysis and stating its opinion as to the prudence and reasonableness of DEP's decisions and actions in connection with the Gypsum Supply Agreement. In addition, the Commission will allow DEP to file rebuttal testimony in response to the Public Staff's testimony, and, if DEP so desires, providing other information that DEP deems relevant to the prudence issue. Finally, the Commission will schedule an additional hearing to consider further the matters arising from the Gypsum Supply Agreement and whether as a result of such matters an

adjustment should be made to the interim rates and schedules established pursuant to this Order.

Based upon the lack of sufficient evidence in the record on the prudence and reasonableness of DEP's decisions and actions in connection with the Gypsum Supply Agreement, and the testimony of Public Staff witness Li, DEP's proposed test year N.C. retail fuel and fuel-related costs shall be adjusted on an interim basis pending further orders by the Commission, by removing liquidated damages in the amount of \$6,640,945 and removing the judgment payment in the amount of \$619,200 for purposes of determining the under-recovery and EMFs. Further, DEP's proposed and projected N.C. retail fuel and fuel-related costs must be adjusted on an interim basis, pending further orders by the Commission, by removing \$5,181,120 for such costs for the purpose of determining the prospective fuel and fuel-related cost factors for the billing period.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 21 – 23

Commission Rule R8-55(d)(1) provides that capacity factors for nuclear production facilities will be normalized based generally on the national average for nuclear production facilities as reflected in the most recent North American Electric Reliability Corporation (NERC) Generating Availability Report (GAR), adjusted to reflect the unique, inherent characteristics of the utility facilities and any unusual events. Company witness Henderson testified that DEP's nuclear fleet consists of three generating stations and a total of four units. He testified that the Company's four nuclear units operated at an actual system average capacity factor of 89.21% during the test period, which reflects the significant impact of Hurricane Florence on three of the four DEP nuclear units. This annual average capacity factor came in below the five-year industry average of 91.80% for the period 2013-2017 for average comparable units on a capacity-rated basis, as reported by NERC in its latest Generating Unit Statistical Brochure, but the Company's 2-year average capacity factor of 92.44% and the Company's 5-year average capacity factor of 93.29%, exceeded the five-year industry average capacity factor.

Company witness Repko testified concerning the performance of DEP's fossil/hydro assets. He stated that the Company's generating units operated efficiently and reliably during the test period. He explained that several key measures are used to evaluate operational performance, depending on the generator type: (1) equivalent availability factor (EAF), which refers to the percentage of a given time period a facility was available to operate at full power, if needed (EAF is not affected by the manner in which the unit is dispatched or by the system demands; it is impacted, however, by planned and unplanned (i.e., forced) outage time); (2) net capacity factor (NCF), which measures the generation that a facility actually produces against the amount of generation that theoretically could be produced in a given time period, based upon its maximum dependable capacity (NCF is affected by the dispatch of the unit to serve customer needs); (3) equivalent forced outage rate (EFOR), which represents the percentage of unit failure (unplanned outage hours and equivalent unplanned derated hours); a low EFOR represents fewer unplanned outage and derated hours, which

equates to a higher reliability measure; and (4) starting reliability, which represents the percentage of successful starts.

Witness Repko presented the following chart, which shows operational results, categorized by generator type, as well as results from the most recently published NERC Generating Unit Statistical Brochure for the period 2013 through 2017:

<i>Generator Type</i>	Measure	Review Period	2013-2017	Nbr of Units
		DEP Operational Results	NERC Average	
<i>Coal-Fired Test Period</i>	EAF	71.4%	81.6%	418
	NCF	25.9%	57.8%	
	EFOR	6.1%	8.1%	
<i>Coal-Fired Summer Peak</i>	EAF	93.1%	n/a	n/a
<i>Total CC Average</i>	EAF	80.3%	85.0%	338
	NCF	72.5%	52.7%	
	EFOR	4.77%	5.3%	
<i>Total CT Average</i>	EAF	80.2%	87.8%	776
	SR	98.7%	98.1%	
<i>Hydro</i>	EAF	79.7%	80.4%	1,113

Company witness Repko also testified that the Company, like other utilities across the United States, has experienced a change in the dispatch order for each type of generating facility due to continued favorable economics resulting from the lower pricing of natural gas. Gas-fired facilities provided 59% of the DEP fossil/hydro generation during the test period.

In his direct testimony, witness Henderson testified that the Robinson Refueling Outage was originally scheduled to begin on September 15, 2018, just one day after Hurricane Florence made landfall along North Carolina’s southeast coast. Tr. Vol. 1, p. 46. The outage start was delayed by one week, and on September 22, 2018, Robinson entered the fall refueling outage, which began one week after the hurricane’s landfall and was impacted by resource constraints directly attributable to the hurricane and its aftermath. Id. In addition to refueling activities, significant safety, regulatory, and reliability enhancements were completed. Regulatory and safety enhancements included the transmission upgrade project (Robinson TUP) and modifications required to transition to the National Fire Protection Association standard (NFPA 805). Id. Significant activities associated with the Robinson TUP included replacement of the 115KV startup transformer, addition of a second transformer, and upgrades to the 4KV bus and transmission lines. The Robinson TUP provides the Robinson plant with a second off-site power path, aligning the station with the current industry standard for U.S. nuclear

plants. Reliability enhancements included the replacement of both low-pressure turbines, which addressed blade design issues that have impacted generation since 2012. Id. After refueling, maintenance, projects and inspection activities were completed, the Robinson plant returned to service on November 26, 2018. The 65-day outage extended beyond the originally scheduled allocation of 37 days, with the overrun primarily attributable to direct impacts on resource availability related to Hurricane Florence and Michael and challenges with the complex Robinson TUP.

Public Staff witness Metz described the Public Staff's investigation and review of the Company's test period and projected fuel and fuel related costs. Witness Metz utilized an updated NERC GAR capacity factor that was released after the Company's filing but prior to the filing of Public Staff testimony. Based on this updated value, witness Metz initially observed that the Company did not meet either of the two benchmarks under Commission Rule R8-55(k). However, witness Metz also acknowledged, consistent with the testimony of DEP witness Henderson, that the test year weather-related events that caused Brunswick Units 1 and 2 to be offline were beyond the Company's control. When the effect of the hurricane was removed, the Company's performance satisfied the Commission Rule R8-55(k) standard and therefore, witness Metz concluded that the rebuttal presumption of imprudence was avoided. Witness Metz also noted that he did not completely agree with the Company's inputs to its calculation of its capacity factors but noted that such disagreement was immaterial to the end result in this proceeding.

With respect to the Robinson Refueling Outage, in addition to reviewing extensive discovery documents provided by the Company, the Public Staff engaged in multiple discussions and meetings with Company personnel regarding the subject matters of this docket and conducted a site visit to the Robinson plant. In his testimony, witness Metz acknowledged that the 67-day outage, which included a scheduled 39-day refueling and transmission project outage, was impacted, at least in part, to weather events beyond the control of the Company. Tr. Vol. 2, p. 116. The Public Staff recognizes that the Robinson TUP was expansive and required a significant level of engineering and oversight. Based on his review, witness Metz was unable to conclude that the additional 28 outage days of replacement power costs incurred during the outage were imprudently incurred. Although witness Metz expressed significant doubt as to whether the Company's management of the project should have resulted in the outage being shifted from the Spring 2017 refueling outage to the Fall 2018 refueling outage, he did not recommend a disallowance for any portion of the replacement costs for which the Company seeks recovery in this docket. Id. at 118.

Witness Metz testified that he was unable to reach a conclusion because the Company's lack of document access or retention restricted the Public Staff's ability to review and evaluate the prudence of project management regarding the Robinson TUP. Id. at 119. Witness Metz stated the Robinson TUP started before the merger of Duke Energy Corporation and Progress Energy, Inc. in 2012. During the project life cycle, the merger led to the introduction of new policies and procedures regarding project management. The Company was able to produce applicable guidelines and procedures that should have been followed, but, in the opinion of witness Metz, the documentation to

ensure that these items were, in fact, appropriately implemented and completed could not be produced consistently. Id. at 120. Witness Metz testified the Company worked in good faith to respond to Public Staff discovery requests, made technical experts and senior management available for discussion, and had open dialogue as the Public Staff and DEP worked through the discovery process. Id. at 120-121. Nonetheless, he has concerns about the Company's apparent lack of records retention in this case and that this concern has broader implications that could impact future investigations and proceedings regarding the capital costs of the Robinson TUP in the context of a future general rate case.

On rebuttal, witness Henderson testified that the Company made a prudent and reasonable decision in implementing the Robinson TUP, including managing an engineering firm that was ultimately unable to deliver on its contractual obligations. Henderson Prefiled Rebuttal Testimony, p. 2. Witness Henderson stated that, having effectively mitigated such issue and taken substantial steps to ensure design completion and other detailed preparatory actions, the Company was fully prepared to implement the Robinson TUP at the start of the Robinson Refueling Outage. Id. The Company was aware of the labor issues and undertook substantial efforts to address the shortage. The Company conferred weekly with a major supplemental labor provider to the nuclear industry and independently contacted fifteen additional sub-tier vendors in an effort to secure additional electrical workers. Unfortunately, the shortage of qualified, electrical workers was exacerbated by the impact of two hurricanes. Id. The refueling outage was originally scheduled to begin on September 15, 2018, just one day after Hurricane Florence made landfall. Ultimately, the Company was able to obtain only approximately 50% of the needed electricians for this project. Id. at 6.

In further efforts to solve the resource gap, the Company reviewed non-critical electric projects underway or scheduled to determine if those projects could be delayed, thereby freeing additional resources to assist on the Robinson TUP. Id. at 7. Witness Henderson also noted that the unit had reached the period where refueling was required, and any additional delays would have required the unit to operate at increasingly reduced power, and would have impacted other scheduled unit outages and the ability of the Company to efficiently meet load demands. Id. Putting aside the fact that there was no practical way to further delay the outage, the Company could not have anticipated the wide-spread regional flooding that would result from the hurricanes. Due to the flooding, some of the already limited available resources had to leave work to respond to emergency situations and tend to homes damaged by the flooding. Other qualified contractors were prevented from traveling to the Robinson plant because of the flooding. Id. at 8.

Witness Henderson also addressed the concerns expressed by witness Metz regarding the shift of the Robinson TUP project from Spring 2017 to Fall 2018. In witness Henderson's view, witness Metz seems to suggest that the shift might be a potential cause of the extended outage, but witness Metz provides no explanation to establish a causal connection between the shift and the extended outage. Witness Henderson stated that the delay of the Robinson TUP project to Fall 2018 had no direct impact on the

extension of the Robinson Refueling Outage and, moreover, the delay was a prudent decision, which avoided potential challenges that might have arisen due to the project not being in a ready state for implementation. Id. at 9.

While witness Metz provided general, non-specific concerns about the availability of information, witness Henderson noted that in addition to multiple meetings and an on-site visit to Robinson, the Company responded to 31 detailed data requests and provided thousands of pages of responsive documents. Id. at 10. The documents included detailed project timelines, business analysis documents and details about the RFP process used to select the contractor. The responses also included the underlying contract and all amendments, annual estimated and actual project spend, project oversight guidelines, and records of monthly hours charged by employees. In the view of witness Henderson, the information provided to the Public Staff provides a very clear and detailed picture of the Company's oversight of the Robinson TUP.

In regard to witness Metz's concerns that the Company did not comply fully with Commission Rule R8-28, witness Henderson noted that witness Metz did not identify any ways in which the Company's document retention policies do not comply with the specific document retention policy of the NARUC policies referenced in Commission Rule R8-28. Id. at 12. Rather, witness Metz appears to reference general guidelines of the NARUC policies, which provide that a utility shall retain appropriate records to support the costs and adjustments that it plans to propose in a current or future rate case. Witness Henderson testified that the vast majority of the issues explored in discovery by the Public Staff related to the Robinson TUP more directly address the prudence of capital costs, which are not related to this proceeding. Id. at 13-14. Witness Henderson stated that the Company had provided sufficient information to demonstrate the reasonableness and prudence of the fuel related costs at issue in this proceeding and understands that additional information may be required in the context of the next base rate case in which capital issues are considered. Id. at 14.

Noting that the Public Staff did not identify any alleged imprudence that caused the outage extension, in response to witness Metz's concerns about the Company's management of the Robinson TUP and the fact that this issue has base rate case implications, witness Henderson testified that questions regarding the Company's management of the Robinson TUP are not relevant in light of the clear evidence that labor shortages were the cause of the extended outage. Id. at 3. Further, he noted that the Company has, in response to extensive data requests from the Public Staff, produced a significant amount of information in this case, but to the extent the Company can produce additional information that will address base rate impacts of the Robinson TUP, the Company will continue to do so. In the final analysis, witness Henderson noted that witness Metz stated that he could not conclude that it is appropriate to disallow recovery of replacement power costs for an outage that was impacted by severe weather events.

Finally, witness Henderson also responded to the testimony of witness Metz regarding the Company's input to its calculation of its capacity factors. Witness Metz described that Company's timing of official maximum dependable capacity adjustments

at the beginning of a calendar year complies with industry norms and is driven to some extent by regulatory reporting requirements. Based both on regulatory reporting requirements, and the business need for the Company to establish and maintain valid MDC ratings, the Company follows procedural guidelines in establishing and reporting MDC values.

Pursuant to N.C. Gen. Stat. § 62-133.2(d) and Commission Rule R8-55, the burden of proof, as to the correctness and reasonableness of any charge and as to whether the test year fuel costs were reasonable and prudently incurred, is on the utility. For purposes of determining the EMF rider, a utility must achieve either (a) an actual system-wide nuclear capacity factor in the test year that is at least equal to the national average capacity factor for nuclear production facilities based on the most recent five year period available as reflected in the most recent NERC Generating Availability Report, appropriately weighted for size and type of plant, the NERC average, or (b) an average system-wide nuclear capacity factor, based upon a two-year simple average of the system-wide capacity factors actually experienced in the test year and the preceding year, that is at least equal to the NERC average in order to avoid a presumption that the utility imprudently incurred the increased fuel costs and that disallowance of those costs is appropriate.

In accordance with Commission Rule R8-55, the Company utilized the NERC GAR capacity that was “most recent” at the time of the filing of the Company’s application. Public Staff witness Metz recommend using an updated NERC GAR capacity factor that was not available at the time of the Company’s filing but was released earlier than normal and just prior to the filing of Public Staff’s testimony. The Commission has concerns with the procedural issues that could arise in the unique circumstances where such an update in the NERC GAR capacity factors late in a proceeding could cause a shift in presumption at a late-stage in the proceeding. However, in this proceeding, the issue is immaterial, as witness Metz acknowledged, after adjusting for weather impacts, that the rebuttal presumption of imprudence was avoided.

Therefore, the Commission concludes that the Company’s nuclear fleet achieved a capacity factor above the NERC average, rendering the rebuttable presumption of imprudence under Commission Rule R8-55(k) inapplicable. Thus, based upon the provisions of the fuel adjustment statute, the question before the Commission is whether the Company has met its burden of proving that the replacement power costs resulting from the Robinson Refueling Outage were reasonable and were prudently incurred under efficient management and economic operations.

Based on the preponderance of evidence, the Commission concludes that there is no basis for a disallowance of the replacement fuel costs for the outage at the Robinson plant. More specifically, the preponderance of evidence indicates that the Company’s actions in connection with the Robinson Refueling Outage were reasonable and prudent. Further, no party introduced evidence indicating imprudent conduct or decisions. The Commission places great weight on the fact that after numerous meetings with Company representatives, a site visit to the Robinson plant and review of extensive responses to

discovery requests, the Public Staff stated that it could not conclude that replacement power costs should be disallowed because of the impact of factors outside of the Company's control.

The Commission also agrees with the Company that whether different management decisions could have resulted in an opportunity to implement the Robinson TUP in an earlier refueling outage would not be a helpful analysis. Rather, the questions for this proceeding is whether the Company's decision to implement the Robinson TUP during the 2018 fall outage was reasonable and prudent, and whether the Company's actions during the outage were reasonable and prudent. No party to this proceeding has challenged the Company's position that it was reasonable to implement the Robinson TUP during the fall 2018 outage and that it was, in fact, fully prepared to do so. The evidence demonstrates that it was circumstances outside of the Company's control and not any imprudent action or decision that caused the extended outage. Specifically, the cause of the 28-day outage extension was a shortage of qualified technical contractors, a situation regarding which the Company was aware of prior to the outage but which was exacerbated by the impact of Hurricanes Florence and Michael. Furthermore, delaying the refueling of the plant was not a viable option. The Commission therefore concludes that the replacement power costs associated with Robinson Refueling Outage were reasonably and prudently incurred under efficient management and economic operations.

The Commission appreciates the Public Staff's concerns about DEP's records retention policies. However, the Commission declines the Public Staff's request in this proceeding to review DEP's record retention policies. Such a matter is beyond the scope of this proceeding, and the record herein is not adequate or specific enough to justify such a review. However, the Commission reminds the Company of the need to maintain and follow reasonable document retention policies, including the NARUC guidelines identified in Commission Rule R8-28. Under the facts of this case, the Commission cannot conclude that the Company is not in compliance with the Commission Rule. To the extent that document retention policies become an issue in future proceedings, the Commission will address those issues as they arise.

In response to the Public Staff's request for guidance on how to proceed if necessary utility documents are unavailable during the Public Staff's investigation of costs, the Commission recommends three steps. First, keep a detailed log of the documents requested but not produced by the utility. Second, in a pre-trial motion or during cross-examination of the witnesses, present evidence of the lack of documentation by the utility. Third, if the utility's lack of documentation materially impairs the Public Staff's ability to fully investigate the prudence or reasonableness of a utility's costs, then the Public Staff could consider opposing the recovery of the costs.

In summary, the Commission concludes that DEP managed its baseload plants prudently and efficiently to minimize fuel and fuel-related costs.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 24

Commission Rule R8-52(b) requires each electric utility to file a Fuel Procurement Practices Report at least once every 10 years and each time the utility's fuel procurement practices change. The Company's revised fuel procurement practices were filed with the Commission in Docket No. E-100, Sub 47A in 2015, and were in effect throughout the 12 months ending March 31, 2019. In addition, the Company files monthly reports of its fuel and fuel-related costs pursuant to Commission Rule R8-52(a). Further evidence for this finding of fact is contained in the testimony of Company witnesses Harrington, Phipps, Henderson, and Church.

Company witness Harrington testified that DEP's fuel procurement strategies that mitigate volatility in supply costs are a key factor in DEP's ability to maintain lower fuel and fuel-related rates. Other key factors include DEP's and D DEC's respective expertise in transporting, managing and blending fuels, procuring reagents, and utilizing purchasing synergies of the combined Company, as well as the joint dispatch of DEP's and DEC's generation resources.

Company witness Phipps described DEP's fossil fuel procurement practices, set forth in Phipps Exhibit 1. Those practices include computing near and long-term consumption forecasts, developing inventory targets, inviting proposals from all qualified suppliers, awarding contracts based on the lowest evaluated offer, monitoring delivered coal volume and quality against contract commitments, and conducting short-term and spot purchases to supplement term supply.

According to witness Phipps, the Company's average delivered coal cost per ton increased approximately 5%, from \$80.82 per ton in the prior test period to \$84.81 per ton in the test period. The Company's transportation costs increased approximately 11%, from \$29.42 per ton in the prior test period to \$32.72 per ton in the test period.

Witness Phipps stated that DEP's current coal burn projection for the billing period is 4.4 million tons compared to 3.6 million tons consumed during the test period. DEP's billing period projections for coal generation may be impacted due to changes from, but not limited to, the following factors: delivered natural gas prices versus the average delivered cost of coal, volatile power prices, and electric demand. Combining coal and transportation costs, DEP projects average delivered coal costs of approximately \$65.43 per ton for the billing period compared to \$84.81 per ton in the test period due, in part to newly negotiated rail transportation contracts that went into effect March 1, 2019.

According to witness Phipps, DEP continues to maintain a comprehensive coal and natural gas procurement strategy that has proven successful over the years in limiting average annual fuel price changes while actively managing the dynamic demands of its fossil fuel generation fleet in a reliable and cost-effective manner.

Witness Phipps further testified that DEP's current natural gas burn projection for the billing period is approximately 158.5 million MMBtu, which is a decrease from the

182.4 million MMBtu consumed during the test period. The current average forward Henry Hub price for the billing period is \$2.76 per MMBtu, compared to \$3.12 per MMBtu in the test period. Witness Phipps also testified that the Company's average price of gas purchased for the test period was \$4.05 per MMBtu, compared to \$4.68 per MMBtu in the prior test period, representing a decrease of approximately 13%.

North Carolina General Statute § 62-133.2(a1)(3) permits DEP to recover the cost of "ammonia, lime, limestone, urea, dibasic acid, sorbents, and catalysts consumed in reducing or treating emissions." Company witness Repko testified that the Company's fossil/hydro/solar generation portfolio consists of 9,204 MWs of generating capacity, 3,544 MWs of which is coal-fired generation across three generating stations and a total of seven units. These units are equipped with emission control equipment, including selective catalytic reduction (SCR) equipment for removing nitrogen oxides (NOx), flue gas desulfurization (FGD or scrubber) equipment for removing sulfur dioxide (SO₂), and low NOx burners. This inventory of coal-fired assets with emission control equipment enhances DEP's ability to maintain current environmental compliance and concurrently utilize coal with increased sulfur content, thereby providing flexibility for DEP to procure the most cost-effective options for fuel supply.

Company witness Repko further testified that overall, the type and quantity of chemicals used to reduce emissions at the plants vary depending on the generation output of the unit, the chemical constituents in the fuel burned, and/or the level of emissions reduction required.

Company witness Church testified that DEP's nuclear fuel procurement practices involve computing near and long-term consumption forecasts, establishing nuclear system inventory levels, projecting required annual fuel purchases, requesting proposals from qualified suppliers, negotiating a portfolio of long-term contracts from diverse sources of supply, and monitoring deliveries against contract commitments. Witness Church explained that for uranium concentrates, conversion and enrichment services, long-term contracts are used extensively in the industry to cover forward requirements and ensure security of supply. He also stated that, throughout the industry, the initial delivery under new long-term contracts commonly occurs several years after contract execution. For this reason, DEP relies extensively on long-term contracts to cover the largest portion of its forward requirements. By staggering long-term contracts over time for these components of the nuclear fuel cycle, DEP's purchases within a given year consist of a blend of contract prices negotiated at many different periods in the markets, which has the effect of smoothing out the Company's exposure to price volatility. He further stated that diversifying fuel suppliers reduces DEP's exposure to possible disruptions from any single source of supply. Due to the technical complexities of changing fabrication services suppliers, DEP generally sources these services to a single domestic supplier on a plant-by-plant basis using multi-year contracts.

North Carolina General Statute. §§ 62-133.2(a1)(4), (5), (6), and (7) permit the recovery of the cost of non-capacity power purchases subject to economic dispatch or economic curtailment; capacity costs of power purchases associated with qualifying

facilities subject to economic dispatch; certain costs associated with power purchases from renewable energy facilities; and the fuel costs of other power purchases. Company witness Phipps testified that DEP and DEC utilize the same process to ensure that the assets of the Companies are reliably and economically available to serve their respective customers. To that end, both companies consider numerous factors such as the latest forecasted fuel prices, transportation rates, planned maintenance and refueling outages at the generating units, generating unit performance parameters, and expected market conditions associated with power purchases and off-system sales opportunities in order to determine the most economic and reliable means of serving their customers.

In his testimony, Public Staff witness Metz expressed concerns about the Company's natural gas pricing methodology, similar to the concerns expressed by Public Staff witness Lucas in DEC's most recent fuel charge adjustment proceeding, Docket No. E-7, Sub 1190. He noted that as the Company has shifted to a fuel commodity with greater price variances, compared to nuclear and coal, customers are exposed to greater risk of under- and over-recoveries. The Company's natural gas consumption, combined with recent winter weather events, has caused exposure to higher than anticipated natural gas fuel commodity prices. To address this concern, witness Metz noted that the Commission required DEC to evaluate historic price fluctuations and whether its current method of forecasting and hedging programs should be adjusted to mitigate the risk of significant under-recovery of fuel costs and report on the results of that evaluation in the DEC's next fuel proceeding. Witness Metz recommended that DEP should be required to undertake the same evaluation and report the results to the Commission in its next fuel proceeding. (The Commission notes that DEP effectively agreed to witness Metz's recommendation in its Finding of Fact No. 21 in its proposed order filed in this proceeding.)

In its post-hearing brief, Sierra Club contended that DEP's current data collection and reporting practices make it impossible to evaluate whether DEP's natural gas costs have been reasonably and prudently incurred. According to Sierra Club, without access to hourly or daily information concerning DEP's generation fleet gas burn, pipeline capacity, or potential to release unused capacity, an evaluation and determination cannot be made as to whether DEP's fixed gas capacity costs have been reasonably and prudently incurred, and whether DEP is over-reliant on fixed capacity. Sierra Club recommended that: 1) DEP should be required to track and report its gas pipeline utilization on an hourly and daily basis, 2) DEP should be required to present evidence in its next fuel case regarding whether or not opportunities exist to monetize unused gas capacity, and 3) the Commission should examine to what extent DEP's reliance on firm capacity constitutes reasonable and prudent costs where that capacity is consistently and dramatically underutilized.

With respect to Sierra Club recommendations, the Commission concludes that Sierra Club has not presented sufficient evidence to justify an investigation into DEP's pipeline capacity utilization practices. DEP witness Phipps responded to Sierra Club's questions on cross-examination with testimony about DEP's Asset Management Agreement with DEC, and DEP's need for reliable pipeline capacity in order to ensure an

adequate supply of natural gas to its generating plants. Tr. Vil. 1, pp. 77-81. Sierra Club did not present any material evidence that DEP is incurring unreasonable pipeline capacity costs or is over-reliant on fixed pipeline capacity. With regard to Sierra Club's request that DEP be required to track and report its gas pipeline utilization on an hourly and daily basis, N.C. Gen. Stat. § 62-133.2(c) and Rule R8-55 are very specific as to the information required of DEP for purposes of the Commission's review of its fuel costs. The Commission is not persuaded that it should add to those requirements the hourly and daily tracking of gas pipeline utilization without some evidence of the cost of compiling such information, or that such information would be useful, which evidence Sierra Club did not present.

Based upon the record, the Commission finds and concludes that the Company's fuel and reagent procurement and power purchasing practices were reasonable and prudent during the test period. However, given the Company's increased reliance on natural gas and the resulting increased risk of under-recoveries if natural gas prices are not forecasted accurately as possible, the Company should evaluate historic price fluctuations and whether its current method of forecasting and hedging programs should be adjusted to mitigate the risk of significant under-recovery of fuel costs. The Company shall report the results of this evaluation in its next fuel proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 25

The evidence supporting this finding of fact is contained in the testimony and exhibits of Company witness Harrington.

According to the exhibits filed by Company witness Harrington, the test period per book system sales were 62,568,164 MWh, and test period per book system generation and purchased power amounted to 70,945,428 MWh (net of auxiliary use). The test period per book system generation and purchased power are categorized as follows (Harrington Exhibit 6):

<u>Net Generation Type</u>	<u>System MWh Generated</u>
Coal	8,081,365
Natural Gas, Oil, and Biomass	23,239,469
Nuclear	27,748,149
Hydro – Conventional	848,406
Solar	227,472
Purchased Power – subject to economic dispatch or curtailment	5,601,750
Other Purchased Power	<u>5,198,817</u>
Total Net Generation (may not add to sum due to rounding)	70,945,428

The evidence presented regarding the operation and performance of the Company's generation facilities is discussed in the Evidence and Conclusions for Finding of Fact No. 5.

No party contested witness Harrington's exhibits setting forth per books system sales, generation by fuel type, and purchased power. Therefore, based on the evidence presented and noting the absence of evidence presented to the contrary, the Commission concludes that the per books levels of test period system sales of 62,568,164 MWh and system generation and purchased power of 70,945,428 MWh are reasonable and appropriate for use in this proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 26

The evidence supporting this finding of fact is contained in the testimony and exhibits of Company witness Harrington and supported in the testimony of Public Staff witness Li.

On her Exhibit 4, Company witness Harrington set forth the test year per books North Carolina retail sales, adjusted for weather and customer growth, of 37,693,746 MWh, comprised of Residential class sales of 16,022,203 MWh, Small General Service sales of 1,941,728 MWh, Medium General Service sales of 11,007,307 MWh, Large General Service sales 8,368,542 MWh, and Lighting class sales of 353,965 MWh.

Based on the evidence presented by the Company, the Public Staff's acceptance of the amounts presented by the Company, and the absence of evidence presented to the contrary, the Commission concludes that the projected North Carolina retail levels of sales set forth in the Company's exhibits, normalized for customer growth and weather, are reasonable and appropriate for use in this proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 27

The evidence supporting this finding of fact is contained in the testimony and exhibits of Company witness Henderson and the testimony of Public Staff witness Metz.

Commission Rule R8-55(d)(1) provides that capacity factors for nuclear production facilities will be normalized based generally on the national average for nuclear production facilities as reflected in the most recent NERC Generating Availability Report, adjusted to reflect the unique, inherent characteristics of the utility's facilities and any unusual events. The Company proposed using a 94.62% capacity factor in this proceeding based on the operational history of the Company's nuclear units, and the number of planned outage days scheduled during the 2019-2020 billing period. This proposed capacity factor exceeds the five-year industry weighted average capacity factor of 91.80% for the period 2013-2017 for average comparable units on a capacity-rated basis, as reported by NERC in its latest Generating Availability Report. Public Staff witness Metz did not dispute the Company's proposed use of a 94.62% capacity factor.

Based upon the requirements of Commission Rule R8-55(d)(1), the historical and reasonably expected performance of the DEP system, and the fact that the Public Staff did not dispute the Company's proposed capacity factor, the Commission concludes that

the 94.62% nuclear capacity factor, and its associated generation of 29,713,146 MWh, are reasonable and appropriate for determining the appropriate fuel and fuel-related costs in this proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 28-29

The evidence supporting these findings of fact is contained in the testimony and exhibits of Company witness Harrington.

Company witness Harrington used projected billing period system sales, generation, and purchased power to calculate the proposed prospective component of the fuel and fuel-related cost rate. The projected system sales level used, as set forth on Harrington Exhibit 2, Schedule 1, is 62,155,919 MWh. The projected level of generation and purchased power used was 71,517,770 MWh (calculated using the 94.62% capacity factor found reasonable and appropriate above), and was broken down by witness Harrington as follows, as set forth on that same schedule:

<u>Generation Type</u>	<u>Projected System MWh Generated</u>
Coal	11,131,286
Gas Combustion Turbine and Combined Cycle	22,185,181
Nuclear	29,713,146
Hydro	648,112
Solar	279,675
Purchased Power	<u>7,560,370</u>
Total (may not add to sum due to rounding)	71,517,770

As part of her Workpaper 8, Company witness Harrington also presented an estimate of the projected billing period North Carolina retail Residential, Small General Service, Medium General Service, Large General Service, and Lighting MWh sales. The Company estimates billing period North Carolina retail MWh sales to be as follows:

<u>N.C. Retail Customer Class</u>	<u>Projected NC Retail MWh Sales</u>
Residential	16,265,079
Small General Service	1,806,876
Medium General Service	10,414,506
Large General Service	9,223,825
Lighting	<u>381,171</u>
Total (may not add to sum due to rounding)	38,091,457

These class totals were used in Harrington Exhibit 2, Schedule 1, Page 2 of 3 and Revised Harrington Exhibit 2, Schedule 1, Page 3 of 3, in calculating the total fuel and fuel-related cost factors by customer class.

Based on the evidence presented by the Company and the absence of evidence presented to the contrary, the Commission concludes that the projected levels of generation and purchased power set forth in the Company's exhibits, are reasonable and appropriate for use in this proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 30 – 31

The evidence supporting these findings of fact is contained in the testimony and exhibits of Company witness Harrington and the testimony of Public Staff witnesses Lucas, Metz and Li.

Company witness Harrington recommended fuel and fuel-related prices and expenses, for purposes of determining projected system fuel expense, as follows:

- A. The coal fuel price is \$31.35/MWh.
- B. The gas CC and CT fuel price is \$26.68/MWh.
- C. The appropriate expense for ammonia, lime, limestone, urea, dibasic acid, sorbents, and catalysts consumed in reducing or treating emissions (collectively, Reagents) is \$26,265,057.
- D. The total nuclear fuel price is \$6.17/MWh.
- E. The total system purchased power cost (including the impact of Joint Dispatch Agreement (JDA) Savings Shared and the impact of House Bill 589, N.C. Sess. L. 2017-192, is \$442,407,406.
- F. System fuel expense recovered through intersystem sales is \$161,032,005.

These amounts are set forth on or derived from Revised Harrington Exhibit 2, Schedule 1. The total adjusted system fuel and fuel-related expense, based in part on the use of these amounts, is utilized to calculate the prospective fuel and fuel-related cost factors recommended by the Company. According to Revised Harrington Exhibit 2, Schedule 1, the projected fuel and fuel-related costs for the North Carolina retail jurisdiction for use in this proceeding are \$883,391,685.

Public Staff witness Metz concluded that the projected fuel and reagent costs are reasonable and were calculated appropriately with the exception of CTG-related costs. Similarly, Public Staff witness Li stated that, based on the testimony and recommendation of Public Staff witness Lucas, she recommended removing North Carolina's retail share of the projected cash payments to be made on the liquidated damages from the projected billing period costs. After removal, Li Exhibit 1, Schedule 2, shows a projected N.C. retail jurisdiction fuel cost of \$878,210,565.

Aside from the Company and the Public Staff, no other party presented testimony contesting the Company's projected fuel and fuel-related costs for the North Carolina retail jurisdiction. Based upon the evidence in the record and the Commission's conclusions with respect to the CTG liquidated damages, the Commission concludes that

the Company's projected total fuel and fuel-related cost for the North Carolina retail jurisdiction of \$878,210,565 is reasonable.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 32

The evidence supporting these findings of fact is contained in the testimony and exhibits of Company witness Harrington.

Company witness Harrington calculated the Company's proposed fuel and fuel-related cost factors for which there is no specific guidance in N.C. Gen. Stat. § 62-133.2(a2) using a uniform bill adjustment method. She stated that DEP proposes to use the same uniform percentage average bill adjustment methodology to adjust its fuel rates to reflect a proposed decrease in fuel and fuel-related costs as it did in the prior year fuel and fuel-related cost recovery proceeding in Docket No. E-2, Sub 1173. No party opposed the use of this allocation method.

Based on the evidence presented by the Company and the absence of evidence presented to the contrary, the Commission concludes it appropriate to allocate fuel and fuel-related costs, with the exception of capacity-related purchased power costs, among customer classes using the uniform percentage average bill adjustment methodology as adopted in DEP's 2018 fuel and fuel-related cost recovery proceeding under Docket No. E-2, Sub 1173.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 33

The evidence supporting this finding of fact is contained in the supplemental direct testimony and exhibits of Company witness Harrington and the testimony of Public Staff witness Metz.

Based on the NC retail share of projected billing period costs as presented by the Company and discussed in the Evidence and Conclusions for Finding of Fact No. 28, and the NC projected retail sales for the billing period as presented by the Company and discussed in the Evidence and Conclusions for Finding of Fact No. 26, the Company proposed the following increment/(decrement) prospective fuel and fuel-related cost factors by customer class, excluding regulatory fees:

<u>N.C. Retail Customer Class</u>	<u>DEP Proposed in ¢/kWh</u>
Residential	2.344
Small General Service	2.527
Medium General Service	2.468
Large General Service	2.056
Lighting	2.281

In his testimony, Public Staff witness Metz stated that, based on his investigation, the projected fuel and reagent costs are reasonable and were calculated appropriately with the exception of CTG lawsuit-related costs. Therefore, witness Metz proposed the following increment/(decrement) prospective fuel and fuel-related cost factors by customer class, excluding regulatory fees:

<u>N.C. Retail Customer Class</u>	<u>Public Staff Proposed in ¢/kWh</u>
Residential	2.326
Small General Service	2.499
Medium General Service	2.456
Large General Service	2.054
Lighting	2.217

The Commission concludes that the proposed increment/(decrement) prospective fuel and fuel-related cost factors set forth by Public Staff witness Metz are reasonable and appropriate for purposes of setting DEP’s interim fuel cost rates in this proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 34

The evidence supporting this finding of fact is contained in the supplemental direct testimony and exhibits of Company witness Harrington and Public Staff witness Lucas and the testimony of Public Staff witness Li and Metz.

Based on the Company’s updated under-recovery through the period ending June 30, 2019 as presented by the Company and discussed in the Evidence and Conclusions for Finding of Fact No. 6, and the North Carolina retail test period sales, normalized for customer growth and weather, as discussed in the Evidence and Conclusions for Finding of Fact No.26, the Company proposed the following EMF increment/(decrement) riders by customer class, excluding regulatory fees:

<u>N.C. Retail Customer Class</u>	<u>DEP Proposed in ¢/kWh</u>
Residential	0.394
Small General Service	0.217
Medium General Service	0.236
Large General Service	0.666
Lighting	0.548

In her testimony, Public Staff witness Jenny X. Li stated that, based on the testimony and recommendation of Public Staff witness Lucas, she recommended removing North Carolina’s retail share of the cash payments made on the liquidated damages from test period costs. Therefore, witnesses Li and Metz proposed the following EMF increment/(decrement) riders by customer class, excluding regulatory fees:

<u>N.C. Retail Customer Class</u>	<u>Public Staff Proposed in ¢/kWh</u>
Residential	0.373
Small General Service	0.198
Medium General Service	0.218
Large General Service	0.648
Lighting	0.530

The Commission concludes that the proposed EMF increment/(decrement) riders set forth by Public Staff witness Li are reasonable and appropriate for purposes of setting DEP's interim fuel cost rates in this proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 35

The evidence supporting this Finding of Fact is contained in the direct testimony and exhibits of Company witness Harrington.

Company witness Harrington testified that the coal inventory rider established in Ordering Paragraph 12 of the Commission's February 23, 2018 Order Accepting Stipulation, Deciding Contested Issue and Granting Partial Rate Increase in Docket No. E-2, Sub 1142 expired in October 2018 and was removed from billed rates on December 1, 2018, and that amounts collected through January 2019 further reduced the under-collected balance. Witness Harrington further testified that interest has been calculated on the under-collected balance through November 30, 2019 yielding the total under-collection as of \$257,250, which will be recovered over a 12-month period expiring on and after November 30, 2020. This amount is included in EMF balances previously addressed and quantified.

Based on the evidence presented by DEP, and noting the absence of evidence presented to the contrary by any other party, the Commission finds and concludes that including the coal inventory rider under-collected balance in the Company's fuel EMF rider rates is reasonable.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 36

Accordingly, the overall fuel and fuel-related cost calculation, incorporating the conclusions reached herein, results in net fuel and fuel-related interim cost factors of 2.699¢/kWh for the Residential class, 2.697¢/kWh for the Small General Service class, 2.674¢/kWh for the Medium General Service class, 2.702¢/kWh for the Large General Service class, and 2.747¢/kWh for the Lighting class, consisting of the prospective fuel and fuel-related cost increments/(decrements) of 2.326¢/kWh, 2.499¢/kWh, 2.456¢/kWh, 2.054¢/kWh, and 2.217¢/kWh, for the classes respectively, and EMF riders of 0.373¢/kWh, 0.198¢/kWh, 0.218¢/kWh, 0.648¢/kWh and 0.530¢/kWh, for the classes respectively, all excluding the regulatory fee.

IT IS, THEREFORE, ORDERED as follows:

1. That, effective for service rendered on and after December 1, 2019, and pending further orders by the Commission, DEP shall adjust the base fuel and fuel-related cost factors in its North Carolina retail rates, as approved in Docket No. E-2, Sub 1142, amounting to 1.993¢/kWh for the Residential class, 2.088¢/kWh for the Small General Service class, 2.431¢/kWh for the Medium General Service class, 2.253¢/kWh for the Large General Service class, and 0.596¢/kWh for the Lighting class (all excluding the regulatory fee), by amounts equal to 0.333¢/kWh, 0.411¢/kWh, 0.025¢/kWh, (0.199)¢/kWh, and 1.621¢/kWh, respectively, and further, that DEP shall adjust the resulting approved prospective fuel and fuel-related cost factors by EMF increments/(decrements) of 0.373¢/kWh for the Residential class, 0.198¢/kWh for the Small General Service class, 0.218¢/kWh for the Medium General Service class, 0.648¢/kWh for the Large General Service class, and 0.530¢/kWh for the Lighting class (all excluding the regulatory fee). The EMF increments/(decrements) are to remain in effect for service rendered through November 30, 2020, or until the Commission issues a further order in this matter. DEP shall adjust the billing factors to include and collect the regulatory fee;

2. That DEP shall file appropriate rate schedules and riders with the Commission in order to implement these approved rate adjustments no later than 10 days from the date of this Order;

3. That DEP shall work with the Public Staff to jointly prepare a proposed notice to customers of the rate adjustments ordered by the Commission in Docket Nos. E-2, Subs 1204, 1205, and 1207 and the Company shall file the proposed notice to customers for Commission approval as soon as practicable;

4. That DEP shall evaluate historic price fluctuations and whether its current method of forecasting and hedging programs should be adjusted to mitigate the risk of significant under-recovery of fuel costs and report the results of that evaluation in the Company's next fuel proceeding;

5. That on or before January 17, 2020, the Public Staff shall conduct an analysis of the prudence and reasonableness of DEP's decisions and actions in connection with the Gypsum Supply Agreement and shall file testimony explaining its analysis and stating its opinion as to the prudence and reasonableness of DEP's decisions and actions in connection with the Gypsum Supply Agreement;

6. That on or before February 17, 2020, DEP may file rebuttal testimony in response to the Public Staff's testimony; and

7. That on Tuesday, March 10, 2020, at 10:00 a.m., the Commission will hold an expert witness hearing in this docket in Commission Hearing Room 2115, Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina to consider further the

matters arising from the Gypsum Supply Agreement and whether as a result of such matters an adjustment should be made to the interim rates and schedules established pursuant to this Order.

ISSUED BY ORDER OF THE COMMISSION.

This the 25th day of November, 2019.

NORTH CAROLINA UTILITIES COMMISSION

A handwritten signature in black ink that reads "Kimberly A. Campbell". The signature is written in a cursive style with a large initial 'K'.

Kimberly A. Campbell, Chief Clerk