STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-7, SUB 1282

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

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

HEARD: Tuesday, May 30, 2023, at 2:00 p.m. in Commission Hearing Room 2115, Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina

BEFORE: Karen M. Kemerait, Presiding; Chair Charlotte A. Mitchell, and Commissioners ToNola D. Brown-Bland, Daniel G. Clodfelter, Kimberly W. Duffley, Jeffrey A. Hughes, and Floyd B. McKissick, Jr.

APPEARANCES:

For Duke Energy Carolinas, LLC:

Ladawn Toon, Associate General Counsel, Duke Energy Corporation, 411 Fayetteville Street, Raleigh, North Carolina 27601

Robert W. Kaylor, Law Office of Robert W. Kaylor, P.A., 353 Six Forks Road, Suite 260, Raleigh, North Carolina 27609

For Carolinas Industrial Group for Fair Utility Rates III:

Christina D. Cress and Douglas Conant, Bailey & Dixon, LLP, 434 Fayetteville Street, Suite 2500, Raleigh, North Carolina 27601

For Carolina Utility Customers Association, Inc.:

Marcus W. Trathen, Brooks, Pierce, McLendon, Humphrey & Leonard, LLP, 150 Fayetteville Street, 1700 Wells Fargo Capitol Center, Raleigh, North Carolina 27601

For Southern Alliance for Clean Energy:

Thomas Gooding and Munashe Magarira, Southern Environmental Law Center, 601 West Rosemary Street, Suite 220, Chapel Hill, North Carolina 27516

For the Using and Consuming Public:

William S. F. Freeman and William E. H. Creech, Public Staff - North Carolina Utilities Commission, 4326 Mail Service Center, Raleigh, North Carolina 27699-4300

BY THE COMMISSION: Pursuant to N.C. Gen. Stat. § 62-133.2, the Commission is required to conduct annual fuel charge adjustment proceedings for electric utilities engaged in the generation or production of electricity by fossil or nuclear fuels. Commission Rule R8-55 provides that the fuel charge adjustment proceeding for Duke Energy Carolinas, LLC (DEC), will be held the first Tuesday of June each year and that DEC shall file its direct testimony and exhibits and shall publish notice prior to the hearing.

On February 28, 2023, DEC filed an application pursuant to N.C.G.S. § 62-133.2 and Commission Rule R8-55 requesting to adjust the fuel and fuel-related cost component of its electric rates, along with the direct testimony and exhibits of Sigourney Clark, Jeffrey Flanagan, John Swez, David Johnson, Kevin Y. Houston, and Steven D. Capps (Application).

On March 1, 2023, DEC filed a letter noting that an incorrect application was inadvertently included in its February 28, 2023 filing and including the appropriate Application to replace the February 28, 2023 filing version.

On March 16, 2023, the Commission issued an Order Scheduling Hearing, Requiring Filing of Testimony, Establishing Discovery Guidelines, and Requiring Public Notice (March 16, 2023 Procedural Order), which established deadlines for the submission of petitions to intervene by interested persons and the filing of testimony by intervenors and rebuttal testimony by DEC, and further required public notice to customers and mandated compliance with certain discovery guidelines.

On March 27, 2023, the Carolina Utility Customers Association, Inc. (CUCA), filed a petition to intervene, which the Commission granted by order dated March 28, 2023. Further, on April 10, 2023, the Carolina Industrial Group for Fair Utility Rates III (CIGFUR III) filed a petition to intervene, which the Commission granted by order dated April 12, 2023. On April 20, 2023, the Southern Alliance for Clean Energy (SACE) filed a petition to intervene, which the Commission granted by order dated April 24, 2023. Finally, the intervention of the Public Staff is recognized pursuant to N.C.G.S. § 62-15(d) and Commission Rule R1-19(e).

On May 4, 2023, DEC filed the supplemental testimony and revised exhibits of witness Clark, including Clark revised exhibit nos. 1-3.

On May 5, 2023, DEC filed the supplemental testimony of witness Swez.

On May 9, 2023, the Public Staff filed the joint testimony of witnesses Darrell Brown, Public Utility Regulatory Analyst, Accounting Division, and Fenge Zhang, Public Utility Regulatory Manager, Accounting Division, as well as the testimony and exhibits of witness Evan D. Lawrence, Engineer with the Energy Division, including confidential information.

Also, on May 9, 2023, CIGFUR III filed the direct testimony and exhibits of witness Brian C. Collins.

On May 18, 2023, DEC filed the rebuttal testimony of witness Flanagan, including confidential information, the rebuttal testimony and exhibit of witness Swez, the joint rebuttal testimony of witnesses Clark and Bauer, the rebuttal exhibits and workpapers of witness Clark, and the rebuttal exhibits of witness Bauer.

On May 19, 2023, DEC filed corrected versions of witness Clark's rebuttal exhibits and workpapers.

On May 23, 2023, CIGFUR III filed a motion to excuse witness Collins from testifying at the expert witness hearing. On May 24, 2023, DEC filed a motion to excuse witnesses Johnson, Houston, and Capps from testifying at the expert witness hearing. On May 26, 2023, the Commission issued an Order Excusing Witnesses and Accepting Testimony, excusing CIGFUR III witness Collins and DEC witnesses Johnson, Houston, and Capps from testifying at the expert witness hearing and receiving the testimony and exhibits of those witnesses into evidence.

On May 25, 2023, DEC filed affidavits of publication indicating that the public notice had been provided in accordance with the March 16, 2023 Procedural Order.

On May 26, 2023, DEC filed the revised rebuttal testimony of witness Flanagan, including confidential information, the revised rebuttal testimony of witness Swez, the revised joint rebuttal testimony of witnesses Clark and Bauer, and the second revised exhibits of witnesses Clark and Bauer.

Also, on May 26, 2023, the Public Staff filed a motion to compel which was subsequently withdrawn.

On May 30, 2023, the Commission conducted a public hearing for the purposes of hearing from members of the public and receiving expert witness testimony from the parties' expert witnesses.[1] The prefiled direct, supplemental, and rebuttal testimonies, exhibits, and workpapers of DEC's witnesses, the prefiled testimony and exhibits of the Public Staff's witnesses, and the prefiled testimony and exhibits of CIGFUR III's witness were admitted into the record. No other party presented witnesses or exhibits prior to or at the evidentiary hearing.

On May 31, 2023, while the hearing was ongoing, DEC and the Public Staff filed an Agreement and Stipulation of Partial Settlement (Partial Stipulation) between DEC and the Public Staff. The remaining parties to this proceeding, CUCA, CIGFUR III, and SACE (Non-Stipulating Parties) are not parties to the Partial Stipulation.

On June 20, 2023, the court reporter caused to be filed the hearing transcript. Consistent with the ruling of Presiding Commissioner Karen M. Kemerait, the Clerk caused to be issued a Notice of Due Date for Proposed Orders and Brief, which established a deadline of no later than July 21, 2023 for post-hearing filings.

On June 30, 2023, the Public Staff filed the supplemental testimony and exhibits of witness Lawrence, wherein he supplemented his prior testimony to recommend that DEC's replacement power costs incurred as a result of the outage extension at the Belews Creek Steam Station Unit 2 beginning on April 22, 2022, and ending on May 8, 2022 (the Belews Creek April 22, 2022 Outage), be disallowed.

On July 6, 2023, DEC filed a motion to strike (Motion to Strike) which requested that the supplemental testimony and exhibits of Public Staff witness Lawrence be stricken from the record pursuant to Commission Rules R1-7 and R1-24 and Rule 402 of the North Carolina Rules of Evidence. In the alternative, DEC requested that (1) it be given an opportunity to conduct discovery regarding the Lawrence Supplemental Testimony and Exhibits, (2) the evidentiary record be reopened for the purpose of receiving DEC rebuttal testimony responding to the supplemental testimony and exhibits of Public Staff witness Lawrence, and (3) the Commission reopen the hearing for the purpose of allowing additional cross-examination of witness Lawrence regarding his supplemental testimony and exhibits.

On July 11, 2023, the Public Staff filed a motion and response to DEC's Motion to Strike (Public Staff Motion), which requested that the Commission deny DEC's Motion to Strike and requested that the Commission enter into the record and consider the supplemental testimony and exhibits of Public Staff witness Lawrence.

On July 14, 2023, the Commission issued an order denying the Public Staff Motion and granting DEC's Motion to Strike. In addition, the order permitted the parties to address, in the post-hearing filings, whether to defer the consideration of certain outages during the test period at issue in this proceeding to the 2024 fuel adjustment proceeding.

[1] The hearing in this matter commenced as scheduled on May 30, 2023, and continued on May 31, 2023.

On July 20, 2023, the Public Staff filed a Motion for Extension of Time to File Proposed Orders and Briefs, which requested that the Commission extend the deadline for the parties to file proposed orders and briefs to July 24, 2023. On July 21, 2023, the Commission granted the Public Staff's motion.

On July 24, 2023, DEC and the Public Staff jointly filed a partial proposed order. Further, DEC separately filed a proposed finding of fact relevant to the issues that were not resolved in the Partial Stipulation (Unresolved Issues). Also on July 24, 2023, DEC, the Public Staff, CUCA, CIGFUR III, and SACE each filed post-hearing briefs. Finally, on July 24, 2023, DEC filed its Exhibits of Stipulation of Partial Settlement (Partial Stipulation Exhibits), which DEC stated "were inadvertently omitted when DEC and the Public Staff's Agreement and Stipulation of Partial Settlement was filed with the North Carolina Utilities Commission on May 31, 2023."

Based upon DEC's verified Application, testimony, and exhibits received into evidence at the hearing, the testimony and exhibits of the Public Staff, and the testimony and exhibits of CIGFUR III, the Commission makes the following:

FINDINGS OF FACT

1. DEC 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. DEC is lawfully before this Commission based upon its Application filed pursuant to N.C.G.S. § 62-133.2.

2. The test period for purposes of this proceeding is the 12 months ending December 31, 2022 (test period).

3. DEC requested a total increase of $692 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 DEC include Experience Modification Factor (EMF) riders and take into account fuel and fuel-related cost under- and over-recoveries experienced during the test period. The overall under-recovery for the test period of $998 million is substantial and unprecedented for DEC in recent history.

4. DEC's witnesses testified that its baseload plants were managed prudently and efficiently during the test period so as to minimize fuel and fuel-related costs. The Public Staff testified that the Belews Creek April 22, 2022 Outage, the Belews Creek Steam Station Unit 2 outage beginning on August 31, 2022 (Belews Creek August 31, 2022 Outage), and the W.S. Lee combined cycle plant outage from December 11, 2022 to January 13, 2023 (W.S. Lee December 2022 Outage) were preventable, but that the Public Staff's investigation into these outages was ongoing and that it therefore did not make recommendations regarding whether the Commission should allow or disallow replacement power costs for these outages. Accordingly, the Public Staff requested that, with regard to the Belews Creek April 22, 2022 Outage, the Belews Creek August 31,

2022 Outage, and the W.S. Lee December 2022 Outage, DEC's proposed rates be put into effect on a provisional basis and subject to review during the 2024 fuel adjustment proceeding.

5. DEC's fuel procurement and power purchasing practices during the test period were reasonable and prudent.

6. The test period per book system sales are 88,284,042 megawatt-hours (MWh). The test period per book system generation (net of auxiliary use and joint owner generation) and purchased power is 94,862,494 MWh and is categorized as follows:

Net Generation Type	MWh
Coal	8,102,494
Natural Gas, Oil and Biomass	28,503,894
Nuclear	44,225,032
Hydro – Conventional	1,696,649
Hydro Pumped Storage	(697,976)
Solar DG	320,481
Purchased Power – subject to economic dispatch or curtailment	11,383,508
Other Purchased Power	1,247,654
Interchange Power	80,759
Total Net Generation	94,862,494

7. The appropriate nuclear capacity factor for use in this proceeding is 93.60%.

8. The North Carolina retail test period sales, adjusted for customer growth and weather, are 59,559,458 MWh. The adjusted North Carolina retail customer class MWh sales are as follows:

N.C. Retail Customer Class	Adjusted MWh Sales
Residential	22,892,401
General Service/Lighting	24,448,017
Industrial	12,219,040
Total	59,559,458

9. Pursuant to the Partial Stipulation, DEC agreed to recover its test period under-recovered fuel and fuel-related costs of $998 million over a 16-month period. In order to derive the EMF rates by customer class, DEC proposed to use its projected sales during the 16-month recovery period of September 1, 2023, through December 31, 2024. Therefore, adjusted test period sales are not being used to derive the EMF rates.

DEC's projected sales for North Carolina retail customer classes over the 16-month recovery period are as follows:

N.C. Retail Customer Class	Projected MWh Sales
Residential	30,273,969
General Service/Lighting	32,956,985
Industrial	16,210,185
Total	79,441,138

10. The projected billing period (September 2023-August 2024) sales for use in this proceeding to derive the prospective fuel and fuel-related costs (i.e., non-EMF rates) are 89,870,966 MWh on a system basis and 60,333,264 MWh on a North Carolina retail basis. The projected billing period North Carolina retail customer class MWh sales are as follows:

N.C. Retail Customer Class	Projected MWh Sales
Residential	23,311,388
General Service/Lighting	24,873,076
Industrial	12,148,800
Total	60,333,264

11. The projected billing period system generation and purchased power for use in this proceeding in accordance with projected billing period system sales is 95,978,101 MWh and are as follows:

Generation Type	MWh
Coal	10,197,068
Gas Combustion Turbine (CT) and Combined Cycle (CC)	28,995,128
Nuclear	43,983,040
Hydro	5,280,351
Net Pumped Storage Hydro	(3,799,951)
Solar Distributed Generation (DG)	359,301
Purchased Power	10,963,165
Total	95,978,101

12. 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 $39.79/MWh;
b. The gas combustion turbine (CT) and combined cycle (CC) fuel price is $34.98/MWh;

c. The appropriate expense for ammonia, lime, limestone, urea, dibasic acid, sorbents, and catalysts consumed in reducing or treating emissions (collectively, Reagents) is $25,288,082;

d. The total nuclear fuel price (including Catawba Joint Owners generation) is $5.61/MWh;

e. The total system purchased power cost (including the impact of Joint Dispatch Agreement (JDA) Savings Shared) is $448,387,237; and

f. System fuel expense recovered through intersystem sales is $39,473,663.

13. The projected fuel and fuel-related costs for the North Carolina retail jurisdiction for use in this proceeding are $1,412,831,331.

14. On January 5, 2023, DEC and the Public Staff entered into a Stipulation Regarding the Proper Methodology for Determining the Fuel Costs Associated with Power Purchases from Power Marketers and Others (Fuel Proxy Agreement), in which fuel cost proxy percentage calculation was increased in order to reflect a reasonable approximation of the fuel cost portion of power purchases based on current fuel commodity prices and a changing resource mix. Per the Fuel Proxy Agreement, DEC will propose a composite total fuel costs to total energy ratio based upon combined short-term off-system sales for the calendar year. Such composite shall be no greater than 85%, but no less than 75%, and that to the extent that the analysis of annual composite short-term off-system sales revenue falls outside the range of 75% to 85%, the composite proxy percentage will be adjusted accordingly to reflect either the minimum or maximum of the range.

15. DEC's North Carolina retail jurisdictional fuel and fuel-related expense under-collection for purposes of the EMF is $998.4 million, consisting of an under-recovery for the Residential, General Service/Lighting, and Industrial classes of $380.8 million, $406.8 million, and $210.8 million, respectively.

16. The increase in customer class fuel and fuel-related cost factors from the amounts approved in DEC's 2022 fuel charge adjustment proceeding in Docket No. E-7, Sub 1263 should be allocated among the rate classes on an equal percentage basis.

17. The appropriate prospective fuel and fuel-related cost factors for this proceeding for each of DEC's rate classes, excluding the regulatory fee, are as follows: 2.6287 cents/kilowatt-hour (kWh) for the Residential class; 2.2596 cents/kWh for the General Service/Lighting class; and 1.9328 cents/kWh for the Industrial class. The prospective fuel and fuel-related cost factors will be billed for the 12-month period beginning September 1, 2023, and ending August 31, 2024.

18. The appropriate EMF increments established in this proceeding, excluding the regulatory fee, are as follows: 1.2579 cents/kWh for the Residential class; 1.2342 cents/kWh for the General Service/Lighting class; and 1.3007 cents/kWh for the Industrial

class. The EMF increments will be billed for the 16-month period beginning September 1, 2023, and ending December 31, 2024.

19. The appropriate EMF interest increments established in this proceeding, excluding the regulatory fee, are as follows: 0.0084 cents/kWh for the Residential class, 0.0082 cents/kWh for the General Service/Lighting class; and 0.0087 cents/kWh for the Industrial class. The EMF interest increments will be billed for the 16-month period beginning September 1, 2023, and ending December 31, 2024.

20. The total net fuel and fuel-related cost factors for this proceeding for each of DEC's rate classes, excluding the regulatory fee, are as follows: 3.8950 cents/kWh for the Residential class; 3.5020 cents/kWh for the General Service/Lighting class; and 3.2422 cents/kWh for the Industrial class.

21. The base fuel and fuel-related costs as approved in DEC's last general rate case in Docket No. E-7, Sub 1214 of 1.6027 cents/kWh, 1.7583 cents/kWh, and 1.6652 cents/kWh for the Residential, General Service/Lighting, and Industrial classes, respectively, will be adjusted by amounts equal to 1.0260 cents/kWh, 0.5013 cents/kWh, and 0.2676 cents/kWh for the Residential, General Service/Lighting, and Industrial classes, respectively. The resulting approved fuel and fuel-related costs will be further adjusted by EMF increments of 1.2579 cents/kWh, 1.2342 cents/kWh, and 1.3007 cents/kWh, and EMF interest increments of 0.0084 cents/kWh, 0.0082 cents/kWh, and 0.0087 cents/kWh for the Residential, General Service/Lighting, and Industrial classes, respectively.

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

N.C. Gen. Stat. § 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(c) prescribes the 12 months ending December 31 as the test period for DEC. DEC's filing in this proceeding was based on the 12 months ending December 31, 2022.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 3

The evidence for this finding of fact is contained in the testimony and exhibits of DEC witnesses Clark and Bauer, Public Staff witnesses Lawrence, Zhang, and Brown, CIGFUR III witness Collins, the Partial Stipulation, and the entire record in this proceeding.

DEC witnesses Clark and Bauer testified that DEC's initial proposed retail fuel adjustment, filed with the Commission on February 28, 2023, requested a NC retail total fuel cost increase of $934,815,271, calculated for both the billing period and the prospective period, which would result in a 17.99% increase to customers' bills. Tr. vol. 2, 186. Further, they explained that DEC's proposed increase in the proposed net fuel and fuel-related costs factors is primarily driven by a $999 million under-recovery in the current test period compared to a $327 million under-recovery included in current rates. *Id.* In supplemental testimony, witness Clark presented an update which decreased the total fuel and fuel-related costs by $613,775 and decreased the overall increase to customers' bills to 17.98%. *Id.*

Public Staff witness Lawrence testified that DEC's total proposed fuel rate increase for the residential class, 1.8892 cents per kWh, would result in an increase of $18.92 (when accounting for the regulatory fee) to a residential customer's monthly bill for 1,000 kWh usage compared to rates currently in effect. *Id.* at 277. He further explained that under DEC's proposed fuel rates, the total bill for a Residential customer taking service under Schedule RS would increase by 16.5%. *Id*.

Witness Lawrence also opined that, while the Public Staff does not have specific "bright line" thresholds to determine what constitutes rate shock, a one-time increase of 16.5% would constitute rate shock. He further noted that "[w]hen considering the Company's proposed base rate increase along with the proposed Multi-Year Rate Plan (MYRP) Rate Years 1 through 3 increases that will overlap the fuel increase, my concerns of rate shock are further exacerbated." *Id.* at 277-78. Accordingly, witness Lawrence testified that, while it is appropriate for DEC to collect its reasonably and prudently incurred costs, he urged DEC to consider spreading of the recovery of these costs over more than 12 months to mitigate the impact to ratepayers. *Id.* at 282-83. Finally, witness Lawrence recommended that DEC recalculate the projected fuel rate based upon current commodity costs since natural gas prices have decreased since DEC filed its schedules and exhibits and it appears that DEC's proposed prospective rate component could result in an over-collection during the billing period. *Id.* at 286-87.

During the evidentiary hearing, Public Staff witness Zhang established that, based on an historic review of DEC's fuel charge adjustment proceedings over a period of the past 17 years in accordance with information provided by CUCA's counsel, over the last 17 years the total under-collection reported by DEC has been $797 million. *Id.* at 292. She further agreed that the magnitude of the under-collection in the present proceeding substantially exceeds the magnitude of any of the past 17 fuel charge adjustment proceedings. *Id.* at 292-93. Public Staff witness Lawrence agreed that there is a "substantial under-recovery" in this proceeding *Id.* at 294.

Testifying on behalf of DEC's large industrial customers, CIGFUR III witness Collins also addressed rate shock in his testimony and defined "rate shock" as a "a large increase [to customers' bills], particularly when it is unexpected." *Id*. at 344. Witness Collins described DEC's proposed bill impact to collect the substantial under-recovered fuel costs, before the mitigation to the bill impact in the Partial Stipulation, as an "extraordinary and abnormal increase in fuel and fuel-related costs," and he warned of financial harm to industrial customers. *Id*. at 343. To mitigate the forecasted rate shock, witness Collins first recommended that any increase be spread among the customer classes on an equal percentage basis[2]. Second, witness Collins proposed that "[a]n interest-free deferral or spreading out of the increase, particularly for the under-recovered amount from the previous period is warranted, at least for the industrial class of customers." *Id*. at 346. Third, citing to Dominion Energy North Carolina's (DENC)'s 2014 fuel proceeding in Docket No. E-22, Sub 515, witness Collins suggested that it would be appropriate in the present proceeding to extend the recovery of the under-collected amount beyond the customary 12-month period. *Id*. at 347. Specifically, witness Collins recommended that the under-recovery be collected from customers over a two or three-year period. *Id.* He opined that such an approach would lessen rate shock and help to manage the abnormal increase. *Id.* His opinion is that "all customers are better off with this approach." *Id.*

Witness Collins also opined that "fuel costs are expected to return to normal in the future and should, in theory, be significantly lower as additional renewable generation is added to DEC's generation resource mix consistent with the policy goals set forth in House Bill 951." *Id.* at 346.

On rebuttal, DEC witnesses Clark and Bauer addressed witness Lawrence's recommendation that DEC update its projected fuel rate component to account for decreasing natural gas prices and the recommendation of witnesses Lawrence and Collins that DEC defer its cost recovery beyond the 12-month period proposed by DEC. *Id*. at 186-87. In response to witness Lawrence's recommendation about an updated fuel rate component, witnesses Clark and Bauer testified that DEC had already updated its fuel cost forecast to refine its estimate of costs to be incurred during the billing period and recalculated the prospective rate component of the fuel rate. *Id.* at 165. They explained that DEC used the most recent Spring 2023 load forecast and the most recent generation and fuel cost forecast in the update. *Id.* In regard to the recommendations of Public Staff witness Lawrence and CIGFUR III witness Collins that DEC recover its costs over a period in excess of twelve months, witnesses Clark and Bauer testified that delaying recovery of DEC's deferred fuel balance by an additional 12 months (for a total period of 24 months) could have negative credit implications and result in potential negative rating action by Moody's based upon recent credit opinions for DEC. *Id*. at 187. They presented the expectation of Moody's Investor Service (Moody's) that substantially all of DEC's deferred fuel balance will be recovered by the end of 2024, as cited in Moody's most recent DEC credit opinion published on May 11, 2023. *Id.* They also provided information that Moody's had changed its outlook on the utility sector to "negative" from "stable" and cited high natural gas prices as a contributing factor given the risk of persistent negative impacts to cash flows if recovery were delayed. *Id.* at 168, 187.

Also on rebuttal, DEC witnesses Clark and Bauer proposed the following additional mitigation options to reduce the overall increase to customer bills: (1) utilizing a new

[2] Finding of Fact No. 15 and the corresponding Evidence and Conclusions section further addresses class allocations.

forecast as proposed by witness Lawrence, (2) forgoing any update to incorporate additional under-recovery experienced through March 2023, and (3) tendering expedited return of the excess deferred income tax (EDIT) Rider Credit balance to offset overall fuel under-recoveries. *Id*. at 187. In regard to the proposal to return the EDIT balance, witnesses Clark and Bauer explained that returning the remaining unprotected EDIT balance over the same 12-month recovery period requested for DEC's deferred fuel balance would significantly reduce the negative impact to DEC's 2023 credit metrics with manageable impacts to 2024. *Id*. at 187. They opined that "DEC's EDIT proposal strikes the right balance by reducing the increase to customer rates while limiting the downside risk to DEC's credit metrics." *Id.*

In conclusion, witnesses Clark and Bauer stated on rebuttal that from DEC's original fuel adjustment proposal in which it seeks recovery of $934,815,271, the impact of all updates and mitigants (including the expedited return of the EDIT balance) that DEC made in this proceeding reduced that original amount to $359,858,245 for the billing period. *Id*. at 188. They again reiterated that the proposed increase is primarily driven by the large under-recovery experienced during the 2022 test period. *Id.*

Partial Stipulation

As is noted in the procedural recital above, while the evidentiary hearing in this matter was ongoing, DEC and the Public Staff filed the Partial Stipulation. The Commission was advised by counsel for DEC during the hearing on May 30, 2023 that DEC and the Public Staff had entered into the Partial Stipulation. Particularly, DEC's counsel advised the Commission that while the terms of the Partial Stipulation were agreed to — including an extension of the recovery period for the under-recovered balance of about $998 million and applying the updated fuel forecast as proposed by Public Staff witness Lawrence — the Partial Stipulation was not yet ready to be filed with the Commission. Tr. vol. 1, 15. Further, counsel for DEC stated that "the Company will make sure that core papers to support those numbers are reviewed by the Public Staff and submitted along with the partial settlement agreement." *Id.* at 16. Finally, counsel for DEC indicated that the Partial Stipulation could be filed with the Commission within the next one to two days. *Id.* at 17.

Following the statements by DEC's counsel, counsel for CIGFUR III requested that the hearing be recessed so that the Partial Stipulation could be filed and to give her time to discuss the Partial Stipulation with CIGFUR III. *Id.* at 18. In reply, counsel for DEC objected to the hearing being recessed but offered to provide the Non-Stipulating Parties with "numbers and exhibits" related to the impact of the Partial Stipulation. *Id.* Counsel for CUCA also advised the Commission that "it would be helpful to have some time to evaluate the settlement that is on the table." *Id.* at 19. Finally, counsel for SACE echoed the objections of CIGFUR III and CUCA. *Id.* at 20. In response of the objections of the Non-Stipulating Parties, the Presiding Commissioner recessed the hearing until 1:00 p.m. the following day and ordered "Duke and the Public Staff [to] provide as much information as possible, hopefully this evening, to all of the parties, so that they can talk to their clients, review the information, and then be in a position to have whatever position from their clients[.]" *Id*. at 21.

When the hearing resumed the following day, counsel for DEC advised the Commission that the written Partial Stipulation would be available "within the next half hour or so." Tr. vol. 2, 8. Counsel for DEC further confirmed that DEC and the Public Staff had provided counsel for the Non-Stipulating Parties on the previous evening with "a summary of the core terms as well as relative workpapers" and that counsel for the Non-Stipulating Parties had confirmed receipt. *Id.* at 9-10. After having received this information from DEC's counsel, the hearing proceeded without objection from any of the Non-Stipulating Parties.

Additionally, prior to DEC's presentation of its panel of witnesses Clark and Bauer, the Presiding Commissioner confirmed that all parties had received a copy of the Partial Stipulation. The hearing then continued without objection from any of the Non-Stipulating Parties.

The Partial Stipulation, which was received into evidence during the course of the evidentiary hearing without objection,[3] provides for the following:

1. The test period under-recovered fuel costs of $998 million will be recovered over a 16-month period as opposed to a 12-month period. Partial Stipulation § III.1;

2. Four percent (4%) interest will be applied to the difference between what DEC is expected to recover over the 16-month stipulated period compared to what DEC would have expected to recover over the 12-month period. Using this calculation, the total amount of the 4% interest is $6.656 million to be paid by North Carolina retail customers.[4] Partial § III.2;

3. DEC will incorporate the April 2023 Spring fuel forecast to set the prospective billing period component of the fuel rate. In addition, DEC will correct the error in the April 2023 Spring fuel forecast it referenced in the revised rebuttal testimony of Sigourney Clark and Chris Bauer, filed on May 26, 2023. Partial Stipulation § III.3; and

4. The billing to all customer classes will utilize the equal percent methodology. Partial Stipulation § III.4.

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[3] *See* Tr. vol. 2, 212; *see also* "DEC Special Exhibit 1," Official Exhibits for Transcript Volume 2 – Public.

[4] DEC noted that the EMF interest rate component was intended "[t]o compensate for the additional financing costs to be incurred by the Company as a result of the extended recovery period." May 31, 2023 cover letter preceding the Partial Stipulation at 1. Further, "[t]he application of interest in this manner effectively serves as proxy for the additional financing costs the Company will incur as a result of the extended recovery period (though does not necessarily reflect the Company's actual additional financing costs)." *Id.* at 1-2.

The Partial Stipulation provides information that the Partial Stipulation, if approved by the Commission, will result in a 13.31% rate increase compared to an approximately 18% increase as originally proposed by DEC. Partial Stipulation § IV.1. Further, the Partial Stipulation, if approved, will result in:

1. Total net fuel and fuel-related cost factors, by customer class, exclusive of the regulatory fee of: 3.8950 cents/kWh for Residential customers, 3.5020 cents/kWh for General Service and Lighting customers, and 3.2422 cents/kWh for Industrial customers. Partial Stipulation § IV.2;

2. Prospective fuel and fuel-related cost factors, by customer class, exclusive of the regulatory fee of: 2.6287 cents/kWh for Residential customers, 2.2596 cents/kWh for General Service and Lighting customers and 1.9328 cents/kWh for Industrial customers. Partial Stipulation § IV.3;

3. EMF cost factors, by customer class, exclusive of the regulatory fee of: 1.2579 cents/kWh for Residential customers, 1.2342 cents/kWh for General Service and Lighting customers and 1.3007 cents/kWh for Industrial customers. Partial Stipulation § IV.4; and

4. EMF interest increment cost factors, by customer class, exclusive of the regulatory fee of: 0.0084 cents/kWh for Residential customers, 0.0082 cents/kWh for General Service and Lighting customers and 0.0087 cents/kWh for Industrial customers. Partial Stipulation § IV.5.

DEC and the Public Staff assert that the “[s]tipulation is in the public interest because it reflects a give-and take of contested issues and results in rates (with respect to the stipulated issues) that are just and reasonable.” Partial Stipulation § V.1.

However, the Partial Stipulation expressly does not settle the issue of the Public Staff’s recommendation that certain test year outages — (1) the Belews Creek April 22, 2022 Outage, (2) the Belews Creek August 31, 2022 Outage, and (3) the W.S. Lee December 2022 Outage — were preventable and consideration of the outages should be deferred until the 2024 fuel adjustment proceeding. Partial Stipulation § II. These outages are discussed further in the Commission’s Finding of Fact No. 4 and the corresponding Evidence and Conclusions section.

During the hearing and responding to a question from counsel for CUCA, DEC witness Clark testified that the Partial Stipulation would result in “about a $30,000 increase for industrial customers per impact” for an industrial customer using approximately five million kWh per annum. Tr. vol. 2, 199-200.

Also, during the hearing and responding to a question from counsel for CIGFUR III asking whether DEC had calculated customer impacts based on a 24-month EMF recovery period, witness Clark indicated that such an extended period was unsatisfactory to DEC, citing credit metric concerns. *Id.* at 202. DEC witness Bauer added that extending the EMF recovery period beyond 20 months would result in a "pretty detrimental impact to the Company's FFO to debt credit metrics." *Id.* He further testified: "[T]he $998 million that we have on our balance sheet today had detrimental impacts to our credit metrics at the end of 2022. Moving beyond 2024 as a recovery period perpetuates that issue to the end of 2023 and potentially beyond. And that's a position that the Company can't entertain." *Id.* at 202-03.

In response to questions from counsel for SACE, witnesses Clark and Bauer stated that if the EMF recovery period were extended beyond the statutory 12-month period, that period would overlap with any potential under-recovery realized during the 2023 test year underlying the 2024 fuel and fuel-related cost adjustment proceeding. *Id*. at 205.

In response to a question from the Presiding Commissioner about the 4% interest rate proposed in the Partial Stipulation to be applied to the EMF rate component, witness Bauer stated:

> holding a billion dollars right now is substantial to the Company. There is a burden there . . . [and] we started accumulating these costs in 2022. Here we are now at the end of May of 2023, we're still incurring those financing costs to date. But over the 12-month period we were not seeking recovery of a substantial burden that we're carrying today. If we were to extend it for 16 months, we thought it fair to try to get some carrying costs for that incremental period.

Id. at 207. He also clarified that the 4% interest rate is applicable to the full 16-month period, not just the four-month extension beyond the statutory period. *Id*. at 207-08.

In response to questions from Commissioner McKissick, witnesses Clark and Bauer testified to customer impacts as contained in the Partial Stipulation Exhibits. Particularly, they testified that the total stipulated net fuel and fuel-related costs factors for each of DEC's rate classes, excluding the regulatory fee, if approved by the Commission would be as follows: 3.8950 cents/kWh for the Residential class; 3.5020 cents/kWh for the General Service/Lighting class; and 3.2422 cents/kWh for the Industrial class. *Id*. at 210. They further explained that the "impact from the Settlement Agreement would yield a 13.31% increase" across all customer classes. *Id.*

Also, during the evidentiary hearing, Public Staff witness Lawrence testified in response to questions from CUCA's counsel that for an industrial customer with an average monthly bill of one million dollars, a 13% increase (consistent with the terms of the Partial Stipulation) would amount to an additional $130,000 per month or an annual increase of approximately $1.5 million. *Id*. at 297. Further, witness Lawrence testified in opposition to DEC's earlier EDIT mitigation proposal (that is not included in the Partial Settlement), stating that the Rider EDIT is flowing money back to customers and suppressing rates. *Id*. at 299. He explained: "if you offset it to fuel . . . there's going to be an increase to other costs elsewhere." *Id.* Public Staff witness Brown also confirmed that, if implemented, DEC's EDIT mitigation proposal would result in an immediate increase in base rates. *Id*. at 319. Finally, he noted that if the EDIT were returned to customers via the fuel rider instead of through the Rider EDIT and if fuel continues to be allocated among the customer classes using the equal percentage allocation methodology, this would result in the EDIT funds being allocated among the customer classes differently than how they are presently being allocated under Rider EDIT. *Id*. at 319-20.

In its post-hearing brief, SACE stated that the Partial Stipulation "provides needed short-term rate relief," and further noted that it "does not oppose" the Partial Stipulation "as it provides material rate relief in this proceeding." SACE Post-Hearing Brief at 7, 9. Notwithstanding that support, SACE cautions that "it is possible that customers still could be paying for this nearly billion-dollar under-recovery and, at the same time, be required to pay for an additional under-recovery in next year's fuel rider proceeding." *Id.* at 9. SACE also notes: "While a rate hike of this magnitude is harmful to all customers, it could be devastating to low-income residential customers. Households with low incomes will likely face much more severe bill impacts from the proposed fuel rider due in large part to their energy burden and energy intensity." *Id.* at 10. Further, SACE states that "[a] fuel rate increase of 13.31% substantially increases the energy burden of low-income customers — and thus increases their risk of disconnection." *Id.* at 11.

CUCA's post-hearing brief notes that the Partial Stipulation "is an improvement over Duke's application," but contends that it "does not appropriately protect DEC customers from rate shock." CUCA Post-Hearing Brief at 2, 15. CUCA explains:

> The Settlement Stipulation entered into between DEC and the Public Staff would result in an immediate 13.31% rate increase to total bills for all customers at precisely the same time DEC is seeking a 9.5% total year-one increase in its MYRP Rate Case proceeding in Docket No. E-7, Sub 1276. Accordingly, DEC customers could see, on average, a 22.8% increase in their bills by December 2023.

Id. at 9. CUCA urges the Commission to protect ratepayers by adopting a longer recovery period for this extraordinary under-collection and/or utilize EDIT refunds to offset the fuel under-recovery. *Id.* at 3. More particularly, CUCA requests that the Commission require DEC to extend the EMF recovery period to 24-36 months with no interest. *Id.* at 13. CUCA contends: "[T]he proposed recovery of under-collections over 16-months has not been adequately justified by DEC or the Public Staff. Nor is there justification from further raising DEC customer rates through the recovery of 4% interest on the unprecedented EMF under-collection amount." *Id.* In the alternative, or in addition to the requested extended EMF recovery period with no interest, CUCA requests that the Commission require DEC to implement its EDIT refund proposal to mitigate the fuel rider increase. *Id*. at 17.

In CIGFUR III's post-hearing brief, CIGFUR III describes the current proceeding as "extraordinary," states that "[e]xtraordinary times call for extraordinary measures," and urges the Commission to use "every available means of rate mitigation possible to help reduce the detrimental impact to the Company's ratepayers" particularly in light of DEC's pending general rate case. CIGFUR Post-Hearing Brief at 2-3. CIGFUR III describes the

Partial Stipulation as “a good start toward mitigating” the impacts of DEC’s test year under-collection, but nonetheless contends that the Partial Stipulation fails to “mitigate the rate impact as low as possible.” *Id.* at 3. More specifically, CIGFUR III contends that “[h]ad the Company’s EDIT rate mitigation proposal been utilized, the total bill increase would be reduced to approximately 10 percent.” *Id.* CIGFUR III argues that doing so would be in the public interest. *Id*.

CIGFUR III next asserts that its due process rights would be violated if the Commission were to accept the Partial Stipulation based on the specific circumstances under which it was introduced. Specifically, CIGFUR III states:

> the Stipulating Parties did not file the Stipulation until after the second day (of two total days) of the evidentiary hearing was underway, giving counsel for CIGFUR, CUCA, and SACE no time to review the *finalized, as-filed* Stipulation with their respective clients before the evidentiary hearing and corresponding record were already closed. Moreover, the parties did not have an opportunity to conduct discovery or present evidence during the hearing regarding the Stipulation, specifically with regard to the impact that EDIT mitigation could have had combined with the stipulated rate mitigation measures and the effect of leaving it on the table, as the Public Staff evidently suggests the Commission do in this proceeding.

Id. at 6-7 (emphasis original). CIGFUR III further contends that the foregoing described circumstances “collectively constitute a deprivation of due process for [the Non-Stipulating Parties],” and argues that “the only adequate remedy seems to be to both approve the Stipulation and require that the Company also utilize the additional EDIT rate mitigation proposal it presented in rebuttal testimony.” *Id*. at 7.

The Commission first notes that DEC’s under-recovery of $998 of fuel-related costs during the test period is substantial and unprecedented for both DEC and DEC’s customers.

The Commission appreciates that DEC and the Public Staff agreed to terms in the Partial Stipulation to mitigate as best as possible the impact to customers’ bills for the under-recovered amount. The Commission recognizes that the increased bills will be difficult for all customers, and especially for low-income customers. Nonetheless, the Commission notes that the only terms of the Partial Stipulation to which the Non-Stipulating Parties object are the proposed EMF interest component and the 16-month period to collect the under-recovered balance. Particularly, in addition to the relief afforded to customers in the Partial Stipulation, CUCA and CIGFUR III suggest that the Commission could further mitigate the impact to customers by expediting the EDIT refund through the fuel rider by “undo[ing] a portion of a [previous] stipulation entered into in a prior case that the Commission approved.” CIGFUR III Post-Hearing Brief at 7; CUCA Post-Hearing Brief at 16-17. Furthermore, even though CUCA supports an extended recovery period of the EMF under-collection amount for longer than 12 months, CUCA recommends that “the EMF under-collection recovery be spread over 24- or 6-months with no interest.” CUCA Post-Hearing Brief at 16.

With regard to the term of the EMF under-collection recovery, the Commission finds persuasive the testimony of DEC witness Bauer that a further extension of the EMF recovery period could be detrimental to DEC’s credit metrics, as well as SACE’s concern that extending the EMF recovery period runs the risk of compounding multiple under-recoveries during future billing periods. On the balance, the Commission finds that the proposed 16-month period fairly and reasonably balances the interests of DEC and its customers and is in the public interest.

Regarding the stipulated 4% interest on the EMF under-collection, the Commission is persuaded by the testimony of DEC witness Bauer that the interest fairly compensates DEC for the extended recovery period. Accordingly, the Commission finds the 4% interest rate to be applied to the EMF rate component reasonable, fair, and in the public interest.

In regard to the issue of the proposed EDIT mitigation option, the Commission is persuaded by the testimony of the Public Staff witnesses that this option is not in the public interest as it, if implemented, would result in an immediate increase in base rates and would result in certain rate classes receiving a lesser EDIT refund than they are currently being afforded under Rider EDIT due to the equal percentage cost allocation method employed in this proceeding.

With regard to CIGFUR III’s contentions that its due process rights were violated by timing of the introduction of the Partial Stipulation during the pendency of the evidentiary hearing, the Commission finds that CIGFUR III’s due process rights were not violated. The Presiding Commissioner recessed the hearing on May 30, 2023, in response to the Non-Stipulating Parties’ objections about the fact that DEC and the Public Staff would be soon filing the Partial Stipulation. During the resumption of the hearing on the following day on May 31, 2023, the Presiding Commissioner confirmed that DEC had provided the Non-Stipulating Parties with documentation of the Partial Stipulation and impacts to rates the preceding evening. On May 31, 2023, when the hearing continued, none of the Non-Stipulating Parties raised concerns as to the sufficiency of the documentation provided by DEC the prior evening, asked for an additional recess, or objected to the hearing continuing under the circumstances.

In addition to the previous discussion about the Partial Stipulation the Commission notes that the Non-Stipulating Parties did not object to the other components of the proposed Partial Stipulation, including the use of the April 2023 fuel forecast to set the prospective billing period rate component and the use of the equal percentage method to allocate the rate increase.

In light of the foregoing and based on substantial, competent, and material evidence in the record, the Commission finds good cause to approve the Partial Stipulation as a fair and reasonable means to mitigate the impacts to both DEC and its customers that are attributable to the substantial and unprecedented under-collection during the 2022 test year.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 4

The evidence for this finding of fact is contained in the testimony of DEC witnesses Capps and Flanagan and the testimony of Public Staff witness Lawrence.

Nuclear Fleet Management

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, adjusted to reflect the unique and inherent characteristics of the utility's facilities and unusual events.

DEC witness Capps testified that DEC operated its nuclear stations in a reasonable and prudent manner during the test period, providing approximately 61% of the total power generated by DEC. In fact, he explained that DEC's seven nuclear units operated at a system average capacity factor of 94.66% during the test period. This capacity factor, as well as DEC's two-year average capacity factor of 95.39%, exceeded the five-year industry weighted average capacity factor of 91.87% for the period 2017-2021 for average comparable units on a capacity-rated basis, as reported by NERC in its latest Generating Availability Report. Tr. vol. 2, 235.

Witness Capps also testified that DEC's seven nuclear units achieved a system average capacity factor exceeding 90% for the 23rd consecutive year in 2022, which included four refueling outages. In addition, witness Capps testified that on a larger industry basis, using early release data for 2022 from the Electric Utility Cost Group, the Catawba, McGuire, and Oconee nuclear plants rank in the top quartile in total operating cost per kWh among the 55 U.S. operating nuclear plants. *Id*. at 235-36.

Public Staff witness Lawrence testified that DEC met the standard of nuclear performance in Commission Rule R8-55(k) with an actual system-wide nuclear capacity factor during the test year that exceeded the NERC weighted average nuclear capacity factor. Additionally, he agreed that DEC's two-year simple average of its system-wide nuclear capacity factor exceeded the NERC average nuclear capacity factor.

Witness Lawrence testified about an outage at McGuire Nuclear Station Unit 2, which began on February 21, 2022, stating that DEC control room operators initiated a manual reactor shutdown due to an unanticipated equipment malfunction. *Id*. at 267. Witness Lawrence opined that, based upon confidential facts in evidence, "I believe the Company could have reasonably avoided this outage." *Id* at 269. However, he further explained that he was not recommending an adjustment for replacement power costs attributable to the February 21, 2022 McGuire Nuclear Station Unit 2 outage "[g]iven the dollar amount of the adjustment that would be made, combined with the history of operational performance of this plant/unit, the fact that this type of failure at DEC plants has not been routine, and the fact this outage appears to be an isolated event[.]" *Id.* at 270. Finally, witness Lawrence stated that "it is my understanding that the Company is taking corrective actions to prevent recurrence." *Id.*

Fossil Fleet Management

DEC witness Flanagan testified about the performance of DEC's Traditional/Renewable (formerly described as Fossil/Hydro/Solar) generation department, testifying that the primary objective is to provide safe, reliable, and cost-effective electricity to DEC's customers. Witness Flanagan further stated that DEC achieves compliance with all applicable environmental regulations and maintains station equipment and systems in a cost-effective manner to ensure reliability. Additionally, DEC takes action in a timely manner to implement work plans and projects that enhance the safety and performance of systems, equipment, and personnel, consistent with providing low-cost power for its customers. *Id*. at 67-68.

Witness Flanagan testified that DEC'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 percent 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 outages and derated hours, which equates to a higher reliability measure; (4) starting reliability (SR), which represents the percentage of successful starts; and (5) equivalent forced outage factor (EFOF) which quantifies the number of period hours in a year during which the unit is unavailable because of forced deratings. *Id*. at 70.

Regarding significant planned outages during the test period, witness Flanagan testified that, in general, planned maintenance outages for all fossil and larger hydroelectric units are scheduled for the spring and fall to maximize unit availability during periods of peak demand. During the test period, most of these units had at least one planned outage to inspect and maintain plant equipment. *Id*. at 71.

In summary, as witness Flanagan testified, the Commission finds that DEC's management of its fossil fleet during the test-period was reasonable and prudent, as demonstrated by its longstanding history of executing outages in a prudent manner and following prescribed processes and operating experience to maintain its fleet reliably for DEC's customers. *Id*. at 76.

Public Staff's Contention That Certain Outages Were Preventable

With respect to DEC's fossil units, Public Staff witness Lawrence testified that certain forced outages that occurred at DEC's Belews Creek Steam Station Unit 2 and W.S. Lee Combined Cycle Plant during the test period were "preventable." *Id*. at 263.

Belews Creek April 22, 2022 Outage

Public Staff witness Lawrence testified that from March 17, 202, through April 22, 2022, Belews Creek 2 was in a planned outage. *Id*. at 270. Witness Lawrence explained that on April 22, 2022, DEC was unable to restart Belews Creek Unit 2 due to foreign material found in the intermediate pressure (IP) turbine, which required removal of the IP turbine shell according to DEC's April 2022 Power Plant Performance Report. *Id.* He further stated that the foreign material discovered was a bladder valve, which is a type of balloon that is inflated inside of a pipe to close the pipe and prevent foreign material ingress while work is performed. *Id.*

Witness Lawrence testified that in response to discovery requests, DEC stated that it believes that the bladder valve, an inflation tube, and the metal fitting were left in inlet piping during a 2018 turbine outage, but it could find no records indicating when or where this had occurred. *Id.* at 270-71. Witness Lawrence explained that the foreign material forced a removal of the turbine shell requiring Unit 2 to be removed from service for 16 days. *Id*. at 271. He further stated that, based on DEC's discovery responses, it appears that the temperature associated with the high-pressure steam where the bladder valve was originally located would have destroyed both the bladder valve and inflation tube; thus, it is unclear whether a full or partial bladder was left in the inlet piping. *Id.* Witness Lawrence opined, "I believe that this outage was preventable and was likely caused because someone working on the turbine did not follow proper procedures for using and removing a bladder valve." *Id.* However, witness Lawrence further testified that he was not recommending any adjustments for replacement power costs for the outage "at this time" because the Public Staff has not yet completed its investigation into the outage. *Id*. at 271, 275. Witness Lawrence also stated that the Public Staff would continue to investigate the outage and provide the results of its investigation in a supplemental filing. *Id*. at 275.

During the May 31, 2023 evidentiary hearing, in response to questions from Presiding Commissioner Kemerait, witness Lawrence testified that based on information received the Friday prior to the hearing, he had enough information to make a recommendation regarding whether the Commission should allow or disallow replacement power costs for the April 22, 2022 Belews Creek Outage. *Id*. at 325. Rather than making his recommendation during the course of the hearing, witness Lawrence indicated that he planned to "immediately start drafting" supplemental testimony on this issue and would file the supplemental testimony. *Id.*

On rebuttal, with regard to the Belews Creek April 22, 2022 Outage, DEC witness Flanagan stated that DEC planned for an outage to occur on March 17, 2022 in order to perform boiler maintenance, technology updates, and turbine valve work. *Id*. at 92. Part of the planned scope also included a routine borescope inspection of the intermediate pressure turbine to inspect its general condition and look for any issues that may need to be addressed in future planned maintenance. *Id*.

Witness Flanagan testified that unexpected foreign material was found in the IP turbine blade path during the routine borescope inspection performed on April 1, 2022, during the planned outage. *Id*. He further stated that DEC considered the risk of potentially catastrophic damage to the turbine blade path and a possible future forced outage, and therefore made the decision, which he described as "reasonable and prudent," to remove the foreign material from the IP turbine. *Id*. The scope of work to disassemble and reassemble the IP turbine extended the outage end date from April 22, 2022 to May 8, 2022 (a period of 16 days). *Id.*

Witness Flanagan stated that DEC believes that the foreign material removed was the metal valve from an inflatable bladder used for foreign material exclusion (FME) prevention during turbine maintenance work. *Id*. at 93. He testified that the metal bladder valve was the only component that survived the high temperature steam during turbine operation and opined that the rubber bladder had disintegrated from the high temperature steam exposure. *Id.* Witness Flanagan further testified that DEC believes that the inflatable bladder was left in the double flow IP turbine inlet piping during the Unit 2 Intermediate Pressure Turbine inspection during the 2018 turbine outage by error while performing final inspection prior to reassembly. *Id.* Finally, witness Flanagan stated that there were no operational problems or other indicators of the foreign material in the IP turbine prior to discovery from the borescope inspection in the March 17, 2022 planned outage. *Id.*

Belews Creek August 31, 2022 Outage

Public Staff witness Lawrence testified that on August 31, 2022, the 2-LP2 turbine crossover pipe on the Belews Creek Unit 2 failed upon restart after a maintenance outage. *Id*. at 271. Witness Lawrence explained that the 2-LP2 turbine crossover pipe transfers high pressure steam from the IP turbine to the low pressure (LP) turbine. Further, he noted that this piping contains expansion joints to allow for thermal expansion created by steam transfer. *Id*.

Witness Lawrence described that on August 31, 2022, a Belews Creek station technician performing standard equipment inspections observed a loose fastener on a tie rod which helped support this piping. *Id*. at 271-72. Witness Lawrence testified that Belews Creek plant staff created a work order to repair the loose fastener during a future outage. *Id*. at 272. However, he added that approximately 15 hours after unit start up, and 13.5 hours after the technician noticed the loose fastener on or at the tie rod, the piping failed catastrophically. *Id.*

Witness Lawrence speculated that the failure of the crossover pipe could have resulted in a longer plant outage, severe damage to critical plant equipment, and challenges to daily reliability and economic dispatch. *Id.* He further opined that DEC has the responsibility to ensure that the crossover pipe is adequately designed and properly assembled and installed by its employees or vendors. *Id.* However, witness Lawrence further testified that he was not recommending any adjustments for replacement power costs for the outage "at this time" because the Public Staff has not yet completed its investigation into the outage. *Id*. at 272, 275. Witness Lawrence also stated that the Public Staff would continue to investigate the outage and provide the results of its investigation in a supplemental filing. *Id*. at 275.

During the May 31, 2023 evidentiary hearing, in response to a question from Presiding Commissioner Kemerait, witness Lawrence testified that he was working on questions and drafting a discovery request to DEC to "hopefully finish up my investigation . . . very soon." *Id*. at 325.

DEC witness Flanagan testified that, during the 2018 Fall Unit 2 outage, the LP turbine crossovers were sent offsite to a specialty vendor for expansion joint replacement. Tr. vol. 2, 93-94. He stated that the crossovers were shipped to the vendor fully assembled and returned fully assembled. *Id*. at 94. Witness Flanagan explained that the turbine was reassembled, and no problems were noted until September 4, 2019, when a tie rod nut was observed loosened by an operator during normal operator rounds. *Id.* Witness Flanagan also stated that DEC consulted the specialty vendor and was provided guidance on how to retighten the loose nut with Loctite Threadlocker 272. *Id.*

Additionally, witness Flanagan explained that DEC conducted an inspection of all tie rods during the 2019 Fall Unit 2 outage on October 10, 2019. *Id.* Witness Flanagan testified that the inspection revealed one tie rod with a cracked circumferential weld and loose spherical fasteners on another tie rod. *Id.* He further stated that the station performed a weld repair on the cracked weld and followed vendor guidance to tighten the loosened fastener securing the nuts with Loctite Threadlocker. *Id.* Witness Flanagan also explained that the crossover presented no other abnormal indications until returning to service after a brief outage on August 31, 2022, when an operator noticed another loose tie rod nut and created a work order to have it re-torqued during the next unit outage. *Id.* Witness Flanagan stated that the crossover failed hours later with the end cap liberating. *Id.* Witness Flanagan testified that throughout the events that occurred prior to the ultimate failure, DEC consulted with subject matter experts and took the recommended steps. *Id.* Also, witness Flangan explained that, with no original design criteria available from the OEM, only during the post event investigation using destructive testing and finite element analysis was the design and associated margin fully understood. *Id.* He testified that the analysis showed the design margin was inadequate to handle the loading condition that results from a loose fastener. *Id*. at 94-95. Finally, witness Flanagan opined that vendor's failure to use Loctite Threadlocker, the lack of original design margins, and the understanding of subject matter experts led to the failure. *Id*. at 95. Witness Flangan concluded that these factors were not apparent or "preventable" at the time that DEC made its decisions on the actions to take. *Id.*

W.S. Lee December 2022 Outage

Public Staff witness Lawrence testified that the W.S. Lee Steam Station suffered an outage that "continued through the 2022 Christmas Eve rolling outages across North Carolina and into 2023." *Id*. at 274. Witness Lawrence stated that outage was the result of turbine damage caused by a fire that resulted during startup from a failed turning gear. *Id.* However, witness Lawrence stated that, due to time constraints, he was unable to complete his investigation of the incident and therefore could not testify "to the prudency of the outage at [that] time." *Id.* He also noted that the Public Staff and DEC were in disagreement as to whether the Public Staff should be allowed to continue its investigation of the W.S. Lee December 2022 outage and to make recommendations to the Commission accordingly during the 2024 fuel adjustment proceeding. *Id.*

Witness Lawrence further explained that he was not recommending any adjustments for replacement power costs for the outage "at this time" because the Public Staff had not yet completed its investigation into the outage. *Id*. at 275. He also stated that the Public Staff would continue to investigate the outage and provide the results of its investigation in a supplemental filing. *Id.* Finally, witness Lawrence testified that "the outage caused by the turbine fire at the W.S. Lee plant is subject to an ongoing investigation in Docket No. M-100, Sub 163 (Winter Storm Elliott), and extended into 2023, which is outside of the test year for this proceeding." *Id.*

During the May 31, 2023 evidentiary hearing, in response to a question from Presiding Commissioner Kemerait, witness Lawrence further explained that the W.S. Lee December 2022 outage coincided with Winter Storm Elliott "when we had significant issues with our power quality across the state and rolling blackouts." *Id*. at 324. He added, "I also don't want this case to determine the outcome of our investigation into that, the M-100, Sub 163 Docket where we are investigating the events [of Winter Storm Elliott]." *Id*.

DEC witness Flanagan testified that the fire that occurred at W.S. Lee CC Unit ST 10 was caused by a failed hydraulic turning gear unit. Tr. vol. 2, 81. He stated that there were no indications of a problem with the turning gear unit prior to the outage and no work was performed on the turning gear unit as part of the outage. *Id.* Witness Flanagan explained that the failure occurred due to a malfunction causing the turning gear not to disengage properly during turbine startup. *Id.* He further opined that there is nothing DEC did to cause this and no indications that could have been acted on to prevent it. *Id*.

Discussion and Conclusions

As is discussed above, no expert witness recommended adjustments to DEC's proposed recovery of its nuclear fuel costs; therefore, based on a preponderance of the evidence in the record, the Commission concludes that DEC managed its nuclear fleet during the test period prudently and efficiently so as to minimize fuel and fuel-related costs.

Further, based upon the record as a whole, no expert witness, including Public Staff witness Lawrence, recommended any adjustments to DEC's proposed recovery of its fossil fuel costs. Rather, the Public Staff requested that the Commission defer its decision on the following three outages until the 2024 fuel adjustment proceeding: (1) the Belews Creek April 22, 2022 Outage, (2) the Belews Creek August 31, 2022 Outage, and (3) the W.S. Lee December 2022 Outage.

In support of the request, the Public Staff contends that there is good cause to give the Public Staff additional time to complete its investigations into the three outages, including "[t]he unprecedented billion-dollar-under-recovery of fuel costs, combined with extraordinary workload pressures and struggles with numerous discovery issues faced by the Public Staff during its investigation[.]" Public Staff Post-Hearing Brief at 3.

Further, the Public Staff contends that the statute governing fuel adjustments and the related Commission rule provide a "'safety valve" that both allows the utility to collect its under-recovered fuel expenses and allows the Commission additional time to make a determination as to whether the fuel rider rates are excessive." *Id.* at 7. Particularly, the Public Staff asserts that N.C.G.S. § 62-133.2(e) and Commission Rule R8-55(n) allow a utility to put proposed charges into effect, subject to refunding any change later determined to be excessive plus interest, if the Commission has not made a determination as to those charges within 180 days of the utility's application for an adjustment.

DEC opposes the Public Staff's request, noting that it "has identified no instance in which the Commission has ever held over an outage from one fuel proceeding to another without the consent of the utility[.]" DEC Post-Hearing Brief at 1-2. Further, DEC contends:

> Test-year fuel and fuel-related costs have already been incurred, are accruing interest, and are now ripe for recovery in accordance with existing statutes. Inching the chalk-line backwards and allowing for open-ended, beyond test-year outage reviews effectively erodes the statutory review periods set by the General Assembly for fuel and fuel-related cost recovery proceedings and is not in the public interest in this proceeding.

Id. at 5-6.

The Commission recognizes and appreciates the considerable workload facing the Public Staff as well as the extraordinary nature of this proceeding compared to an ordinary fuel rider proceeding. In addition, the Commission recognizes and values the investigative work and recommendations of the Public Staff. The Commission is also cognizant of its obligation to review and establish annually a fuel charge adjustment consistent with the General Assembly's intentions. On the balance, the Commission finds that the workload concerns cited by the Public Staff in this case do not justify the Commission's departure from its statutory obligation to establish an annual fuel adjustment by a date certain. The Commission therefore declines to allow further consideration of the Belews Creek April 22, 2022 Outage and the Belews Creek August 31, 2022 Outage during the 2024 fuel adjustment proceeding. Notwithstanding the foregoing, because the W.S. Lee December 2022 Outage spans both the 2022 and 2023 test year, the Commission finds good cause to conclude that replacement fuel costs attributable to the W.S. Lee December 2022 Outage are appropriate for consideration in the 2024 annual fuel adjustment proceeding.

Accordingly, based on substantial, competent, and material evidence in the record, the Commission concludes that DEC managed its baseload plants during the test period prudently and efficiently so as to minimize fuel and fuel-related costs, excepting the W.S. Lee December 2022 Outage, to which the Commission will defer its consideration until the 2024 annual fuel adjustment proceeding. DEC may put its proposed rates into effect on a provisional basis, consistent with the provisions of N.C.G.S. § 62-133.2(e) and Commission Rule R8-55(n), subject to review of the reasonableness and prudency of the replacement power costs attributable to the W.S. Lee December 2022 Outage during the 2024 fuel adjustment proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 5

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. DEC's updated fuel procurement practices were filed with the Commission in Docket No. E-100, Sub 47A in December 2014, and were in effect throughout the 12 months ending December 31, 2022. In addition, DEC 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 DEC witnesses Clark, Swez, Flanagan, and Houston, and the testimony of Public Staff witness Lawrence.

DEC witness Clark testified that key factors in DEC's ability to maintain lower fuel and fuel-related rates for the benefit of customers include its diverse generating portfolio mix of nuclear, coal, natural gas, and hydro; the capacity factors of its nuclear fleet; and fuel procurement strategies that mitigate volatility in supply costs. Other key factors cited by witness Clark include the combination of DEC's and DEP's experience in procuring, transporting, managing, and blending fuels and procuring reagents; the increased and broader purchasing ability of the combined companies; and the joint dispatch of DEC's and DEP's generation resources. Tr. vol. 2, 146-47.

DEC witness Swez described DEC's fossil fuel procurement practices, set forth in Swez Exhibit 1. Those practices include computing near and long-term consumption forecasts, determining and designing inventory targets, inviting proposals from all qualified suppliers, awarding contracts, monitoring delivered coal volume and quality against contract commitments, conducting short-term and spot purchases to supplement term natural gas supply, and obtaining natural gas transportation for the generation fleet through a mix of long term firm transportation agreements and shorter-term pipeline capacity purchases.

According to witness Swez, DEC's average delivered cost of coal for the test period was $99.86 per ton, compared to $78.22 per ton in the prior test period, an increase of approximately 28%. This includes an average transportation cost of $33.65 per ton in the test period, compared to $31.68 per ton in the prior test period, an increase of approximately 6%. Witness Swez further testified that DEC's average price of gas purchased for the test period was $6.94 per Million British Thermal Units (MMBtu), compared to $4.22 per MMBtu in the prior test period, an increase of approximately 65%. Witness Swez indicated that the cost of gas is inclusive of gas supply, transportation, storage, and financial hedging. Tr. vol. 2, 21-22.

Witness Swez stated that DEC's coal burn for the test period was 3.2 million tons, compared to a coal burn of 5.3 million tons in the prior test period, a decrease of approximately 40%. DEC's natural gas burn for the test period was 253.5 million MBtu, compared to a gas burn of 189.6 million MBtu in the prior test period, an increase of approximately 34%. DEC witness Swez stated that changes in coal and natural gas burns were primarily driven by the relationship of coal commodity prices during 2022 relative to natural gas prices in the same period, as record high coal commodity prices offset higher natural gas costs, reducing gas to coal generation switching especially at DEC's dual fuel operating ("DFO") stations. *Id.* at 22.

Witness Swez stated that coal markets continue to be distressed and there has been increased market volatility due to a number of factors, including: (1) the inability of coal suppliers to respond to increasing demand over 2021 and 2022, following the prior years of steep declines in coal generation demand; (2) natural gas price volatility; (3) continued uncertainty regarding proposed and imposed U.S. Environmental Protection Agency ("EPA") regulations for power plants; (4) increased demand in global markets for both steam and metallurgical coal; (5) tightened access to investor financing; (6) continued shifts in production from thermal to metallurgical coal as producers move away from supplying declining electric generation to take advantage of increasing demand from industry; and, (7) continued labor and resource constraints further limiting suppliers' operational flexibility. *Id.* In addition, DEC witness Swez stated that the coal supply chain experienced significant challenges throughout 2021 and 2022 as historically low utility stockpiles combined with rapidly increasing demand for coal, both domestically and internationally, made procuring additional coal supply increasingly challenging. Witness Swez indicated that producers were unable to respond to this rapid rise in demand due to capacity constraints resulting from labor and resource shortages, factors that combined to drive both domestic and export coal prices in late 2021 to record levels. Witness Swez also indicated that continued labor and resource constraints, including the on-going threat of a rail strike in Q4 2022, caused prices to remain elevated over the course of 2022. *Id*. at 23.

He also testified that with respect to natural gas, the nation's natural gas supply has grown significantly over the last several years, as producers enhanced production techniques, enhanced efficiencies, and lowered production costs. *Id.* at 24.

Witness Swez stated that DEC's current coal burn projection for the billing period is 3.7 million tons, compared to 3.2 million tons consumed during the test period. Combining coal and transportation costs, DEC projects average delivered coal costs of approximately $105.86 per ton for the billing period compared to $99.86 per ton in the test period. This includes an average projected total transportation cost of $30.48 per ton for the billing period, compared to $33.65 per ton in the test period. *Id*. at 25.

Witness Swez testified that this cost, however, is subject to change based on, but not limited to, the following factors: (1) exposure to market prices and their impact on open coal positions; (2) the amount of Central Appalachian coal DEC is able to purchase and deliver and the non-Central Appalachian coal DEC is able to consume; (3) changes in transportation rates; (4) performance of contract deliveries by suppliers and railroads which may not occur; and (5) potential additional costs associated with suppliers' compliance with legal and statutory changes, the effects of which can be passed on through coal contracts. *Id.*

Witness Swez further testified that DEC's current natural gas burn projection for the billing period is approximately 260.9 MMBtu, which is an increase from the 253.5 MMBtu consumed during the test period. Witness Swez stated that projected natural gas burn volumes will also vary on factors such as, but not limited to, changes in actual delivered fuel costs and weather driven demand. *Id*. at 26.

Witness Swez indicated that the net increase in DEC's overall burn projections for the billing period versus the test period is primarily driven by increases in projected load over the period. *Id.*

According to witness Swez, DEC 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 Swez also testified that DEC has implemented natural gas procurement practices that include periodic Requests for Proposal and shorter-term market engagement activities to procure and actively manage a reliable, flexible, diverse, and competitively priced natural gas supply that includes contracting for volumetric optionality in order to provide flexibility in responding to changes in forecasted fuel consumption. According to witness Swez, DEC continues to maintain a short-term financial natural gas hedging plan to manage fuel cost risk for customers via a disciplined, structured execution approach. Witness Swez stated that DEC monitors and makes adjustments as necessary to its natural gas hedging program to ensure it remains appropriate based on market conditions and DEC's fuel procurement strategy. Finally, witness Swez testified that DEC procures long- term firm interstate and intrastate transportation to provide natural gas to its generating facilities. *Id.* at 26-27.

Pursuant to N.C.G.S. § 62-133.2(a1)(3), DEC may recover the cost of "ammonia, lime, limestone, urea, dibasic acid, sorbents, and catalysts consumed in reducing or treating emissions." DEC witness Flanagan testified that DEC has installed pollution control equipment in order to meet various current federal, state, and local reduction requirements for nitrogen oxide (NO_x) and sulfur dioxide (SO_2) emissions. *Id.* at 72.

DEC witness Flanagan further testified that overall, the type and quantity of chemicals used to reduce emissions at DEC's plants varies depending on the generation output of the unit, the chemical constituents in the fuel burned, or the level of emissions reduction required. He stated that DEC is managing the impacts, favorable or unfavorable, as a result of changes to the fuel mix or changes in coal burn due to competing fuels and utilization of non-traditional coals. He also stated that the goal is to effectively comply with emissions regulations and provide the optimal total-cost solution for operation of the unit. *Id.* at 73.

DEC witness Houston testified as to DEC's nuclear fuel procurement practices, which include 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 Houston explained that for uranium concentrates as well as 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. He further stated that diversifying fuel suppliers reduces DEC's exposure to possible disruptions from any single source of supply. *Id.* at 224-25.

Public Staff witness Lawrence reviewed DEC's coal, natural gas, nuclear, and reagent procurement practices and contracts as part of his investigation. *Id*. at 262. He did not recommend any adjustments.

Based upon the substantial, competent, and material evidence in the record, the Commission concludes that DEC's fuel procurement and power purchasing practices were reasonable and prudent during the test period.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 6

The evidence supporting this finding of fact is contained in the Partial Stipulation Exhibits filed in conjunction with DEC's proposed order and the entire record in this proceeding.

According to the Partial Stipulation exhibits sponsored by DEC witness Clark, the test period per book system sales were 88,284,042 MWh, and test period per book system generation and purchased power amounted to 94,862,494 MWh (net of auxiliary use and joint owner generation). The test period per book system generation and purchased power are categorized as follows (Clark Exhibit 6):

Net Generation Type	MWh
Coal	8,102,494
Natural Gas, Oil and Biomass	28,503,894
Nuclear	44,225,032
Hydro – Conventional	1,696,649
Hydro Pumped Storage	(697,976)
Solar DG	320,481
Purchased Power – subject to economic dispatch or curtailment	11,383,508
Other Purchased Power	1,247,654
Interchange Power	80,759
Total Net Generation	94,862,494

No party took issue with the portions of witness Clark's exhibits setting forth per books system sales, generation by fuel type, and purchased power. Therefore, based on substantial, competent, and material evidence in the record, the Commission concludes that the per books levels of test period system sales of 88,284,042 MWh and system generation and purchased power of 94,862,494 MWh are reasonable and appropriate for use in this proceeding.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 7

The evidence supporting this finding of fact is contained in the direct testimony and exhibits of DEC witness Capps.

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 unusual events. In the Partial Stipulation between DEC and Public Staff, DEC proposed nuclear capacity factor of 93.60%, based on the operational history of DEC's nuclear units and the number of planned outage days scheduled during the billing period. This proposed capacity factor exceeds the five- year industry weighted average capacity factor of 91.87% for the period 2017-2021 as reported in the NERC Brochure during the period of 2017 to 2021.

Based upon the requirements of Commission Rule R8-55(d)(1), the historical and reasonably expected performance of the DEC system, and the substantial, competent, and material evidence in the record, the Commission concludes that the 93.60% nuclear capacity factor and its associated generation of 58,871,920 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. 8-11

The evidence supporting these findings of fact is contained in the Partial Stipulation exhibits and the entire record in this proceeding.

On Clark Settlement Exhibit 4, DEC witness Clark set forth the test year per books North Carolina retail sales, adjusted for weather and customer growth, of 59,559,458 MWh, comprising Residential class sales of 22,892,401 MWh, General Service/Lighting class sales of 24,448,017 MWh, and Industrial class sales of 12,219,040 MWh.

Witness Clark 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 Clark Settlement Exhibit 2, Schedule 1, is 89,870,966 MWh. The projected level of generation and purchased power used is 95,978,101 MWh (calculated using the 93.60% nuclear capacity factor found reasonable and appropriate above), as set forth on Clark Settlement Exhibit 2, Schedule 1, and was broken down by witness Clark as follows, as set forth on that same schedule:

Generation Type	MWh
Coal	10,197,068
Gas Combustion Turbine (CT) and Combined Cycle (CC)	28,995,128
Nuclear	43,983,040
Hydro	5,280,351
Net Pumped Storage Hydro	(3,799,951)
Solar Distributed Generation (DG)	359,301
Purchased Power	10,963,165
Total	95,978,101

As part of Clark Settlement Workpaper 7, DEC witness Clark also presented an estimate of the projected billing period North Carolina retail Residential, General Service/Lighting, and Industrial MWh sales. DEC estimates billing period North Carolina retail MWh sales to be as follows:

N.C. Retail Customer Class	Projected MWh Sales
Residential	23,311,388
General Service/Lighting	24,873,076
Industrial	12,148,800
Total	60,333,264

These class totals were used in Clark Supplemental Exhibit 2, Schedule 1, in calculating the total fuel and fuel-related cost factors by customer class.

Based on the substantial, competent, and material evidence in the record, the Commission concludes that the projected North Carolina retail levels of sales set forth in DEC's exhibits (normalized for customer growth and weather), as well as the projected levels of generation and purchased power, are reasonable and appropriate for use in this proceeding.

EVIDENCE AND CONCLUSION FOR FINDING OF FACT NO. 12

The evidence supporting this finding of fact is contained in the direct and rebuttal testimony and exhibits of DEC witness Clark and the testimony of Public Staff witness Lawrence.

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

1. The coal fuel price is $39.79/MWh.
2. The gas CT and CC fuel price is $34.98/MWh.
3. The appropriate expense for ammonia, lime, limestone, urea, dibasic acid, sorbents, and catalysts consumed in reducing or treating emissions (collectively, Reagents) is $25,288,082.
4. The total nuclear fuel price (including Catawba Joint Owners generation) is $5.61/MWh.
5. The total system purchased power cost (including the impact of JDA Savings Shared) is $448,387,237.
6. System fuel expense recovered through intersystem sales is $39,473,663.

These amounts are set forth on or derived from Clark Settlement 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 DEC and the Public Staff.

In his direct testimony, Public Staff witness Lawrence recommended DEC re-calculate projected fuel costs due to fuel commodity cost changes since DEC filed its application, which DEC did and filed in its rebuttal testimony and exhibits. No other party presented evidence on the level of DEC's fuel and fuel-related prices and expenses.

Based upon the substantial, competent, and material evidence in the record as to the appropriate fuel and fuel-related prices and expenses, the Commission concludes that the fuel and fuel-related prices recommended by DEC witness Clark and accepted by the Public Staff for purposes of determining projected system fuel expense are reasonable and appropriate for use in this proceeding within the requirement of N.C.G.S. §62.133.2.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 13

The evidence supporting this finding of fact is contained in the Partial Stipulation exhibits and the testimony of Public Staff witness Lawrence.

Consistent with N.C.G.S. § 62-133.2(a2), witness Clark testified that the annual increase in the aggregate amount of purchased power costs under the relevant sections of N.C.G.S. § 62-133.2(a1) does not exceed 2.5% of DEC's total North Carolina jurisdictional gross revenues for 2022. Tr. vol. 2, 151.

According to Clark Settlement Exhibit 2, Schedule 1, Page 3, the projected fuel and fuel-related costs for the North Carolina retail jurisdiction for use in this proceeding are $1,412,831,331. Public Staff witness Lawrence did not take issue with this calculation.

Aside from DEC and the Public Staff, no other party presented or elicited testimony contesting DEC's projected fuel and fuel-related costs for the North Carolina retail jurisdiction. Therefore based upon the substantial, competent, and material evidence in the record, the Commission concludes that DEC's projected total fuel and fuel-related costs for the North Carolina retail jurisdiction of $1,412,831,331 are reasonable.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 14

The evidence supporting this finding of fact is contained in the direct testimony and exhibits of DEC witness Swez.

DEC witness Swez stated that the most recent proxy percentage was established during the 2008 fuel proceeding and that since the 2008 proceeding, the proxy has not been updated. Witness Swez further testified that due to increasing fuel commodity prices and a changing resource mix, DEC and the Public Staff agreed that the fuel proxy established in the 2008 fuel proceeding no longer represents a reasonable approximation of the fuel cost portion of power purchases. Witness Swez testified that DEC and the Public Staff consider it reasonable to continue to use the accepted methodology of using the fuel component of DEC's off-system sales as a reasonable basis for approximating fuel costs associated with power purchases when actual fuel costs are unavailable or unidentified as a component of the price paid for energy under a power purchase agreement. Tr. vol. 2, 17-18.

Witness Swez testified that, per the Fuel Proxy Agreement between DEC and the Public Staff, starting with DEC's 2023 annual fuel rider proceeding, an annual compilation of actual total fuel and fuel-related costs as a component of total short-term off-system sales revenue is an appropriate basis for estimating fuel costs on power purchases when the actual fuel component is unavailable or unidentified as a component of the price paid for energy under a power purchase contract. Witness Swez states that for DEC's annual fuel rider proceedings filed during 2023-2027, DEC will propose a composite total fuel cost to total energy cost ratio, based on DEC's and Duke Energy Progress, LLC's (DEP) combined short-term off-system sales for the calendar year. Witness Swez states that such composite shall be no greater than 85%, but no less than 75% and that to the extent that the analysis of annual composite short-term off-system sales revenue falls outside the range of 75% to 85%, the composite proxy percentage will be adjusted accordingly to reflect either the minimum or maximum of the range. *Id.* at 18-19.

The executed Fuel Proxy Agreement between DEC and the Public Staff is provided as Swez Exhibit 4.

No other party presented evidence regarding the methodology for determining fuel costs associated with power purchases from power marketers.

Based upon the substantial, competent, and material evidence in the record as to the appropriate methodology, the Commission concludes that the methodology recommended by DEC witness Swez and accepted by the Public Staff in the executed Fuel Proxy Agreement for purposes of determining the fuel cost portion of power purchases is reasonable and appropriate.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 15-20

The evidence supporting these findings of fact is contained in the Partial Stipulation and in the exhibits of DEC witness Clark.

DEC witness Clark presented DEC's original fuel and fuel-related expense under-collection and prospective fuel and fuel-related cost factors. The Partial Stipulation between DEC and Public Staff set forth the projected fuel and fuel- related costs, the subsequent amount of under-collection for purposes of the EMF, the method for allocating the increase in fuel and fuel-related costs, the composite fuel and fuel-related cost factors, and the EMFs along with exhibits and workpapers reflecting the following adjustments: (1) Clemson CHP (Combined Heat & Power) billing update and (2) inclusion of the Spring 2023 forecast.

Public Staff and DEC agree in the Partial Stipulation that the EMF riders proposed by DEC are based on DEC's calculated and reported North Carolina retail fuel and fuel-related cost under-recoveries of $380,810,058 for the Residential customer class, $406,768,116 for the General Service/Lighting customer class, and $210,851,011 for the Industrial customer class. The Partial Stipulation proposed that DEC's EMF rider for each customer class be based on these net fuel and fuel-related cost under-recovery amounts and on DEC's proposed projected North Carolina retail sales (over the 16-month recover period) of 30,273,969 MWh for the Residential class, 32,956,985 MWh for the General Service/Lighting class, and 16,210,185 MWh for the Industrial class. The Partial Stipulation also stated that these amounts produce an EMF increment rider for each North Carolina retail customer class as follows, excluding the regulatory fee:

Residential	1.2579 cents per kWh
General Service/Lighting	1.2342 cents per kWh
Industrial	1.3007 cents per kWh

The Partial Stipulation also proposed an EMF interest increment rider for each North Carolina retail customer class as follows, excluding the regulatory fee:

Residential	0.0084 cents per kWh
General Service/Lighting	0.0082 cents per kWh
Industrial	0.0087 cents per kWh

DEC witness Clark calculated DEC's proposed fuel and fuel-related cost factors for which there is no specific guidance in N.C.G.S. § 62-133.2(a2) using a uniform bill adjustment method. She stated that DEC proposes to use the same uniform percentage average bill adjustment methodology to adjust its fuel rates to reflect a proposed increase in fuel and fuel-related costs as it did in its 2022 fuel and fuel-related cost recovery proceeding in Docket No. E-7, Sub 1263.

CIGFUR III witness Collins testified that any increase granted should continue to be spread among classes on an equal percentage basis. Tr. vol. 2, 346. Witness Collins opined that "[t]he volatility of cost changes is dampened by this method and overly harsh increases are to some extent reduced." *Id.*

No party opposed the use of the equal percentage allocation method. In the Partial Stipulation, DEC and Public Staff agree that the billing to all customer classes will utilize the equal percent methodology.

The following tables summarize the impact of the rates proposed in this case and the rates approved in Docket No. E-7, Sub 1263 (excluding regulatory fee):

E-7 Sub 1282			
Description	**Residential cents/kWh**	**General Service Lighting cents/kWh**	**Industrial cents/kWh**
Base Fuel	1.6027	1.7583	1.6652
Prospective Component	1.0260	0.5013	0.2676
EMF Component	1.2579	1.2342	1.3007
EMF Interest Component	0.0084	0.0082	0.0087
Total Fuel Factor	3.8950	3.5020	3.2422

E-7 Sub 1263			
Description	**Residential cents/kWh**	**General Service Lighting cents/kWh**	**Industrial cents/kWh**
Base Fuel	1.6027	1.7583	1.6652
Prospective Component	0.3976	0.0634	0.1744
EMF Component	0.4863	0.6254	0.5726
EMF Interest Component	-	-	-
Total Fuel Factor	2.4866	2.4471	2.4122

Summary of Differences Sub 1282 — 1263(excluding regulatory fee):

Change in Fuel Rates			
Description	**Residential cents/kWh**	**General Service Lighting cents/kWh**	**Industrial cents/kWh**
Base Fuel	-	-	-
Prospective Component	0.6284	0.4379	0.0932
EMF Component	0.7716	0.6088	0.7281
EMF Interest Component	0.0084	0.0082	0.0087
Total Fuel Factor	1.4084	1.0549	0.8300

Based upon based on the substantial, competent, and material evidence in the record, the Commission concludes that (1) DEC's EMFs proposed in this proceeding, excluding the regulatory fee and (2) DEC's prospective fuel and fuel-related cost factors proposed in this proceeding for each of DEC's rate classes are appropriate; provided, however, that the W.S. Lee December 2022 outage will be considered by the Commission in the 2024 fuel and fuel-related charge adjustment proceeding and the recovery of replacement power costs for that outage afforded herein shall be on a provisional basis, subject to refund plus interest, if later determined by the Commission to be excessive. Additionally, the Commission finds it is reasonable to use the equal percentage adjustment methodology to allocate the increase in fuel and fuel-related costs as provided in the Partial Stipulation.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 21

The evidence for this finding of fact is contained in the Partial Stipulation and is discussed in more detail in Evidence and Conclusions for Findings of Fact Nos. 8 and 16-19.

Based on substantial, competent, and material evidence in the record the Commission concludes that the overall fuel and fuel-related cost calculations, incorporating the conclusions reached herein, results in net fuel and fuel-related cost factors of 3.8950 cents/kWh for the Residential class, 3.5020 cents/kWh for the General Service/Lighting class, and 3.2422 cents/kWh for the Industrial class, excluding regulatory fee, consisting of the prospective fuel and fuel- related cost factors of 2.6287 cents/kWh, 2.2596 cents/kWh, and 1.9328 cents/kWh, EMF increments of 1.2579 cents/kWh, 1.2342 cents/kWh, and 1.3007 cents/kWh, and EMF interest increments of 0.0084 cents/kWh, 0.0082 cents/kWh, and 0.0087 cents/kWh, respectively, excluding the regulatory fee.

IT IS, THEREFORE, ORDERED as follows:

1. That, effective for service rendered during the 12-month period September 1, 2023 to August 31, 2024, DEC shall adjust the base fuel and fuel-related costs in its North Carolina retail rates of 1.6027 cents/kWh, 1.7583 cents/kWh, and 1.6652 cents/kWh for the Residential, General Service/Lighting, and Industrial classes,

respectively as approved in Docket No. E-7, Sub 1214, by amounts equal to 1.0260 cents/kWh, 0.5013 cents/kWh, and 0.2676 cents/kWh for the Residential, General Service/Lighting, and Industrial classes, respectively;

2. That, effective for service rendered during the 16-month period September 1, 2023 to December 31, 2024, DEC shall adjust the resulting approved fuel and fuel-related costs by EMF increments of 1.2579 cents/kWh for the Residential class, 1.2342 cents/kWh for the General Service/Lighting class, and 1.3007 cents/kWh for the Industrial class, and EMF interest increments of 0.0084 cents/kWh for the Residential class, 0.0082 cents/kWh for the General Service/Lighting class, and 0.0087 cents/kWh for the Industrial class (excluding the regulatory fee);

3. That the W.S. Lee December 2022 outage will be considered by the Commission in the 2024 fuel and fuel-related charge adjustment proceeding and the recovery of replacement power costs for that outage afforded herein shall be on a provisional basis, subject to refund plus interest, if later determined by the Commission to be excessive;

4. That the Fuel Proxy Agreement between DEC and the Public Staff be accepted and that the change in the fuel cost proxy percentage calculation be applied starting with the 2023 fuel proceeding;

5. That DEC shall file appropriate rate schedules and riders with the Commission in order to implement these approved rate adjustments as soon as practicable; and

6. That DEC shall work with the Public Staff to prepare a joint notice to customers of the rate changes ordered by the Commission in this docket, as well as in Docket Nos. E-7, Sub 1281 and E-7, Sub 1283, and DEC shall file such joint notice for Commission approval on or before August 28, 2023.

ISSUED BY ORDER OF THE COMMISSION.

This the 23rd day of August, 2023.

NORTH CAROLINA UTILITIES COMMISSION

A. Shonta Dunston

A. Shonta Dunston, Chief Clerk