

PLACE: Dobbs Building, Raleigh, North Carolina

DATE: Monday, July 11, 2022

DOCKET NO.: G-39, Sub 46

G-39, Sub 47

TIME: 1:00 p.m. - 3:03 p.m.

BEFORE: Commissioner Karen M. Kemerait

Chair Charlotte A. Mitchell

Commissioner ToNola D. Brown-Bland

IN THE MATTER OF:

Cardinal Pipeline Company, LLC,

Depreciation Rate Study as of December 31, 2020,

and

Adjustment in Its Rates and Charges

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E X H I B I T S

IDENTIFIED/ADMITTED

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4	Company, LLC	
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P R O C E E D I N G S

COMMISSIONER KEMERAIT: Good afternoon.

Let us come to order and go on the record. I am Commissioner Karen M. Kemeraut, presiding Commissioner for this hearing, and with me this afternoon are Chair Charlotte A. Mitchell and Commissioner ToNola D. Brown-Bland.

I now call for hearing Docket Number G-39, Subs 46 and 47, In the Matter of an Application of Cardinal Pipeline Company, LLC for a General Increase in Its Rates and Charges, and that's with G-39, Sub 47; and to Provide the Depreciation Rate Study that is required by the Commission's Rule R6-80. And that's in G-39, Sub 46.

On October 26th of 2021, Cardinal Pipeline Company, LLC, which I will refer to as Cardinal or the Company going forward, filed its depreciation rate study as of December 31, 2020, in G-39, Sub 46.

On February 10, 2022, Cardinal filed a notice of its intention to file a general rate case application pursuant to Commission Rule R1-17(a).

Also on February 10th of 2022, Cardinal

1 filed a request for a waiver of three Commission
2 requirements generally applicable to the filing of
3 a rate case.

4 On March 15, 2022, Cardinal filed its
5 application and its direct testimony and exhibits
6 in support of the application's request to increase
7 Cardinal's rates and charges.

8 On March 28th of 2022, the Public Staff
9 filed a motion requesting that the Commission issue
10 an order consolidating Cardinal's depreciation
11 study as filed in G-39, Sub 46 with its general
12 rate case application in G-39, Sub 47.

13 On April 4th of 2022, the Commission
14 issued an order consolidating these dockets.

15 Also on April 4, 2022, the Commission
16 issued an order granting Cardinal's request for
17 waivers.

18 On April 7, 2022, the Commission issued
19 an order establishing general rate case and
20 suspending rates.

21 On May 2nd of 2022, the Commission
22 issued an order scheduling an investigation,
23 establishing intervention and testimony due dates
24 and discovery deadlines, and requiring public

1 notice. And I'll refer to that order as the
2 scheduling order going forward.

3 Among other things, the scheduling order
4 set this matter to be heard at an expert witness
5 hearing beginning today, Monday, July 11th of 2022,
6 at 1:00 p.m. in Commission Hearing Room 2115, on
7 the second floor of the Dobbs Building, located at
8 430 North Salisbury Street in Raleigh,
9 North Carolina.

10 On June 10, 2022, the Public Staff filed
11 the direct testimony and exhibits of Roxie McCullar
12 and John R. Hinton.

13 On June 13th of 2022, the Public Staff
14 filed the direct testimony and exhibits of
15 Sonja R. Johnson and Neha Patel.

16 On June 17, 2022, the Public Staff
17 submitted corrected exhibits of witness Patel.

18 On June 27, 2022, Cardinal filed the
19 rebuttal testimony and exhibits of Cardinal
20 witnesses Haag and Miller.

21 On July 5, 2022, Cardinal, the Public
22 Staff, and Piedmont Natural Gas Company,
23 Incorporated, which is Piedmont going forward --
24 and these parties are collectively referred to as

1 the stipulating parties going forward -- filed with
2 the Commission the stipulating parties' settlement
3 agreement and stipulation.

4 Also on July 5, 2022, Cardinal filed the
5 settlement supporting testimony and exhibits of
6 witnesses Miller, Haag, and Fall; and the Public
7 Staff filed the settlement supporting testimony and
8 exhibits of witnesses Hinton and Johnson.

9 On July 6, 2022, the stipulating
10 parties, along with Public Service Company of
11 North Carolina, Incorporated, which is PS&C going
12 forward -- and collectively, these companies are
13 called the movants -- filed a joint motion to
14 excuse witnesses and cancel the evidentiary
15 hearing, which is the joint motion.

16 On July 8, 2022, the Commission issued
17 an order allowing in part and denying in part the
18 joint motion to excuse witnesses. Among other
19 things, the order excused all of Cardinal's
20 witnesses and Public Staff witness McCullar, and
21 found good cause to receive their testimony and
22 exhibits into evidence at the hearing, but declined
23 to excuse Public Staff witnesses Hinton, Patel, and
24 Johnson.

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1 And so that brings us to today.

2 Pursuant to North Carolina General Statute Section
3 138A-15(e), I remind members of the Commission of
4 our duty to avoid conflicts of interest and inquire
5 at this time as to whether any Commissioner has any
6 known conflict of interest with respect to this
7 docket.

8 (No response.)

9 COMMISSIONER KEMERAIT: Let the record
10 reflect that I have no such conflict and that my
11 fellow Commissioners have not identified any such
12 conflict.

13 I now call upon counsel for the parties
14 to announce their appearance for the record
15 beginning with the applicant.

16 MR. KAYLOR: Good afternoon,
17 Chair Kemeraït, members of the Commission.
18 Robert Kaylor on behalf of Cardinal Pipeline
19 Company.

20 COMMISSIONER KEMERAIT: Thank you,
21 Mr. Kaylor.

22 MS. HOLT: Good afternoon. I'm
23 Gina Holt with the Public Staff here on behalf of
24 the using and consuming public, and appearing with

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1 me today is Public Staff attorney Reita Coxton.

2 MS. ATHENS: Good afternoon,
3 commissioners, Kristin Athens from the law firm of
4 McGuireWoods appearing on behalf of Piedmont
5 Natural Gas Company.

6 MS. GRIGG: Good afternoon.
7 Mary Lynne Grigg with McGuireWoods on behalf of
8 PS&C.

9 COMMISSIONER KEMERAIT: Thank you,
10 counsel.

11 Are there any public witnesses who wish
12 to be heard regarding this matter before us today?

13 (No response.)

14 COMMISSIONER KEMERAIT: Seeing that
15 there are no public witnesses here today, are there
16 any preliminary matters that we need to discuss
17 before we begin with the evidentiary hearing?

18 MR. KAYLOR: I'm not sure if we need to
19 introduce testimony from the excused witnesses at
20 this time or if you'd prefer that we wait until a
21 later time.

22 COMMISSIONER KEMERAIT: So,
23 Mr. Kaylor, I think we will begin by having the
24 testimony. You can make a motion, beginning with

1 the applicant, to admit the testimony of the
2 Company.

3 MR. KAYLOR: Thank you. So then we
4 would move the Company's application into the
5 record in both dockets. We would move the direct
6 testimony of Kerri Miller, Michael Cousino,
7 David Haag, and Steven Fall and their exhibits as
8 they have been marked; the rebuttal testimony of
9 David Haag and Kerri Miller; the supplemental [sic]
10 testimony of David Haag, Kerri Miller, and
11 Steven Fall; as well as the settlement agreement
12 between the stipulating parties.

13 We ask that all that testimony plus all
14 the marked exhibits be introduced into the record
15 as if the parties were here and gave that testimony
16 in person.

17 COMMISSIONER KEMERAIT: Thank you,
18 Mr. Kaylor, the motion is allowed.

19 (Application of Cardinal Pipeline
20 Company, LLC, Miller Direct Exhibit
21 KM-002, Miller Rebuttal Exhibit KM-004,
22 Haag Direct Exhibits DH-002 through
23 DH-005, Fall Direct Exhibits CPC-0002
24 through CPC-0007, and Settlement

1 Agreement and Stipulation were admitted
2 into evidence.)

3 (Whereupon, the prefiled direct,
4 rebuttal, and settlement testimony of
5 Kerri Miller; the prefiled direct
6 testimony of Michael Cousino; the
7 prefiled direct, rebuttal, and
8 settlement testimony of David Haag; and
9 the prefiled direct and settlement
10 testimony of Steven Fall were copied
11 into the record as if given orally from
12 the stand.)
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Exhibit ____ (KM-001)

BEFORE THE

NORTH CAROLINA UTILITIES COMMISSION

Docket No. G-39, SUB 47

DIRECT TESTIMONY
OF
KERRI MILLER

ON BEHALF OF

CARDINAL PIPELINE COMPANY, LLC

March 15, 2022

OFFICIAL COPY

MAR 15 2022

1 **I. Identification of Witness**

2 **Q. Please state your name, current position, and business address.**

3 A. My name is Kerri H. Miller. I am a Lead Regulatory Analyst for Cardinal
4 Operating Company, LLC, as Operator of Cardinal Pipeline Company, LLC
5 (“Cardinal”). My business address is 2800 Post Oak Boulevard, Houston,
6 Texas 77056.

7 **Q. Please summarize your education and professional background.**

8 A. In 2006, I graduated from the Indiana University of Pennsylvania with a
9 Bachelor of Arts degree in Economics. In August 2006, I was employed by
10 Strategic Energy, as a Power Portfolio analyst where I created purchasing
11 strategies for wholesale electric customers. From May 2008 until April 2020, I
12 was an Energy Industry Analyst with the Federal Energy Regulatory
13 Commission (“FERC”). From May 2008 until my departure, I focused on the
14 cost of service for interstate natural gas pipeline and electric utility
15 proceedings in the Office of Administrative Litigation. In April 2020, I joined
16 the Transcontinental Gas Pipe Line Company, LLC (“Transco”) Rates and
17 Regulatory Department as a Lead Regulatory Analyst.

18

1 **Q. Please outline your current responsibilities with Cardinal.**

2 A. My current responsibilities involve the preparation of Cardinal's rate, tariff,
3 and report filings made with the North Carolina Utilities Commission
4 ("Commission" or "NCUC").

5 **Q. Have you previously testified before this Commission or any other**
6 **regulatory Commission?**

7 A. I have not testified before this Commission. However, I have filed testimony
8 and testified before the FERC in the following proceedings:

- 9 • *Portland Natural Gas Transmission System*, Docket No. RP10-729-
10 000;
11 • *Midcontinent Independent System Operator, Inc.*, Docket No. ER14-
12 1242-006, *et al*; and
13 • *Constellation Mystic Power, LLC*, Docket No. ER18-1639-000.

14 In addition, I have filed testimony before the FERC in the following
15 proceedings:

- 16 • *Southern California Edison Company*, Docket No. ER09-1534-000;
17 • *High Island Offshore System, L.L.C.*, Docket No. RP09-487-000; and
18 • *Southwest Power Pool, Inc.*, Docket No. ER15-2028-002.

1 **II. Purpose of Testimony**

2 **Q. What is the purpose of your testimony in this proceeding?**

3 A. The purpose of my testimony is to support Cardinal's application in this case
4 ("Application"). I will (1) provide a brief description of Cardinal; (2) provide
5 a brief description of Cardinal's Application in this docket; (3) support the
6 various elements of Cardinal's test period cost of service and rate base,
7 including test period adjustments and the amortization of excess deferred
8 income taxes ("EDIT"); (4) support the billing determinants used in the
9 derivation of Cardinal's rates; (5) support the allocation of the cost of service
10 between Cardinal's two zones; (6) support the continued use of Cardinal's
11 existing rate design methodology in the derivation of the Cardinal rates in this
12 proceeding; and (7) request authority to place certain pipeline integrity
13 management costs in a deferred account for proposed future collection. While
14 I support the calculation of the overall rate of return, the capital structure, cost
15 of debt, and rate of return on equity component are supported by the testimony
16 of Cardinal's expert witness, Mr. David J. Haag, in Exhibit DH-001. The
17 Accumulated Deferred Income Taxes ("ADIT"), as well as federal and state
18 income taxes are supported by the testimony of Mr. Michael P. Cousino in
19 Exhibit MC-001. The depreciation and negative salvage rates are supported
20 by the testimony of Mr. Steven R. Fall in Exhibit CPC-0001.

21

- 1 Q. **Have any exhibits been filed as a part of your testimony?**
- 2 A. Yes. I am sponsoring the following Schedules and Statements which are
- 3 included in Exhibit KM-002:
- | | | |
|----|-----------------|---|
| 4 | Schedule 1 | Present Rates |
| 5 | Schedule 2 | Proposed Rates |
| 6 | Schedule 3 | Original Cost of Property Used and Useful |
| 7 | Schedule 4 | Present Fair Value (Cardinal elects not to use) |
| 8 | Schedule 5 | Accumulated Depreciation |
| 9 | Schedule 6 | Materials and Supplies |
| 10 | Schedule 7 | Cash Working Capital |
| 11 | Schedule 8 | Revenues, Expenses and Rates of Return |
| 12 | Schedule 9 | Income Statement and Balance Sheet |
| 13 | Statement A | Overall Cost of Service |
| 14 | Statement B | Rate Base and Return |
| 15 | Statement C | Original Cost of Plant |
| 16 | Statement D | Accumulated Provision for Depreciation, Depletion and |
| 17 | | Amortization |
| 18 | Statement E | Working Capital |
| 19 | Statement F | Rate of Return, Cost of Capital, and Cost of Debt |
| 20 | Statement G | Quantities and Revenues |
| 21 | Statement H-1 | Operation and Maintenance Expenses |
| 22 | Schedule H-1(a) | Tracked Costs Workpaper |

1	Schedule H-1(b)	Property and General Liability Insurance Workpaper
2	Schedule H-1(c)	Rent Expense Workpaper
3	Schedule H-1(d)	Rate Case Expense Workpaper
4	Schedule H-1(e)	Pipeline Integrity Management Deferral Workpaper
5	Statement H-2	Depreciation, Depletion and Amortization Expense
6	Statement H-3(a)	Reverse South Georgia Workpaper
7	Statement H-4	Taxes Other than Income Taxes
8	Statement I	Cost Allocation and Rate Design

9 **Q. What test period has Cardinal used in preparing this rate filing?**

10 A. Under North Carolina statutes and the rules of the NCUC, Cardinal is required
11 to use a 12-month test period as a basis for determining future expenses. In
12 this proceeding, the test period in Cardinal's rate filing consists of a twelve-
13 month period ended December 31, 2021, adjusted for changes which are
14 known and measurable with reasonable accuracy.

15 **Q. Were these Schedules and Statements prepared by you or under your**
16 **direction?**

17 A. Yes, they were.

18

1 **III. Identification of Cardinal**

2 **Q. Please describe Cardinal and its business.**

3 A. Cardinal Pipeline Company, LLC is a limited liability company originally
4 formed on December 6, 1995, in the name of Cardinal Extension Company,
5 LLC to acquire and extend an existing pipeline owned by the original Cardinal
6 Pipeline Company, LLC in North Carolina. Cardinal's members and their
7 ownership percentages are: TransCardinal Company, LLC, a wholly owned
8 subsidiary of Williams Partners Operating LLC (45%); PSNC Cardinal
9 Pipeline Company, a wholly owned subsidiary of Public Service Company of
10 North Carolina, Inc. (33%) ("PSNC"); and Piedmont Intrastate Pipeline
11 Company, a wholly owned subsidiary of Piedmont Natural Gas Company,
12 Inc. (22%) ("Piedmont"). Cardinal is managed by a committee consisting of
13 representatives from each member company. Cardinal Operating Company,
14 LLC, a wholly owned subsidiary of Williams Partners Operating LLC,
15 designed and constructed Cardinal and serves as the operator of the Cardinal
16 system.

17 Cardinal is an intrastate natural gas pipeline extending from Transco's
18 Compressor Station 160 in Rockingham County, North Carolina to the
19 Raleigh, North Carolina area and provides 478,450 dekatherms ("Dth") per
20 day of firm natural gas transportation capacity to customers in North Carolina.
21 The Cardinal pipeline system consists of (a) the original 24-inch-diameter, 37-
22 mile Cardinal Pipeline, which originates in Rockingham County, North

1 Carolina, and extends to the southeast of Burlington, North Carolina to
2 provide 134,550 Dth per day of firm natural gas transportation capacity, (b)
3 the 24-inch-diameter Cardinal Extension, which was placed into service on
4 November 1, 1999, and extends approximately 67-miles from Burlington,
5 North Carolina to the Raleigh, North Carolina area adding 144,900 Dth per
6 day of firm natural gas transportation capacity, and (c) the 2012 Expansion
7 Project, which was placed into service on June 1, 2012, and includes facilities
8 to uprate Cardinal's Clayton meter station and construct a greenfield gas
9 compressor station (Compressor Station 161) adding 199,000 Dth per day of
10 firm natural gas transportation capacity. Cardinal's service is divided into two
11 zones, Zone 1 consisting of service on the original Cardinal Pipeline facilities
12 and Zone 2 consisting of service on the combined Cardinal Extension and
13 2012 Expansion Project facilities (collectively, "Cardinal Expansion").

14 **IV. Description of Application**

15 **Q. Please explain why it is necessary to file this rate case.**

16 A. On March 15, 2017, Cardinal filed an application in Docket No. G-39, Sub 38
17 seeking to adjust its rates and charges for natural gas service. On June 9, 2017,
18 Cardinal, PSNC, Piedmont, and the Public Staff filed a Joint Stipulation in
19 settlement of all aspects of Cardinal's rate application. The NCUC approved
20 the Joint Stipulation on July 27, 2017, in its "Order Decreasing Rates" ("July
21 27 Order"). The Joint Stipulation and Ordering Paragraph 5 of the July 27

1 Order requires Cardinal to file a rate case no later than March 15, 2022. In
2 compliance with the Joint Stipulation and the July 27 Order, Cardinal is
3 submitting the instant Application.

4 **Q. What is Cardinal seeking in this Application?**

5 A. The Application seeks the approval of an adjustment in the Cardinal rates that
6 were established in Docket No. G-39, Sub 38, as adjusted by Docket Nos. M-
7 100, Sub 138 and G-39, Sub 42 to comply with the federal corporate income
8 tax reduction (“Federal Income Tax Reduction Filing”), sufficient to allow
9 Cardinal to recover its cost of service including a just and reasonable return on
10 its investment, as supported in the testimony of Mr. David Haag in Exhibit
11 No. DH-001.

12 The Application proposes rate changes that would produce an overall
13 increase from the rates approved in the July 27 Order, as adjusted by the
14 Federal Income Tax Reduction Filing, which allowed Cardinal to charge rates
15 designed to produce annual operating revenues of \$11,719,364. With the
16 known and measurable changes identified later in my testimony, Cardinal’s
17 proposed rates in this Application result in a cost of service of \$12,638,895,
18 which is a \$919,530 increase in revenue. Appendix I to the Application
19 provides a summary of the proposed changes in revenue by zone.

1 **Q. Please provide a brief description of the assumptions underlying**
2 **Cardinal’s existing rate design and any proposed adjustments.**

3 A. Cardinal’s cost of service is divided into two zones. The Zone 1 cost of
4 service is assigned to Piedmont and PSNC based on their respective
5 ownership shares in the original Cardinal Pipeline. The Zone 2 cost of service
6 is assigned to PSNC and Piedmont based on their peak day entitlements. No
7 changes have been made to the rate design underlying the rates approved by
8 the Commission in its July 27 Order.

9 **V. Cost of Service and Rate Base**

10 **Q. Please describe Cardinal’s Overall Cost of Service, shown on Statement A**
11 **of Exhibit ____ (KM-002).**

12 A. Statement A summarizes the items included in Cardinal’s cost of service for
13 the test period, as adjusted, totaling \$12,638,895 shown on Line 9. The cost of
14 service consists of operations and maintenance expenses including
15 administrative and general expenses (collectively referred to as “O&M”),
16 depreciation, depletion and amortization of gas plant in service, income and
17 other taxes, and an 8.72% overall return on the test period rate base. The
18 details underlying Cardinal’s O&M expense are provided on Page 1 of
19 Statement H-1. The depreciation expense shown on Line 3 is supported by
20 Statement H-2 and utilizes the depreciation rates supported by Mr. Steven Fall
21 in Exhibit CPC-0001. The income and other taxes included on Statement A

(Lines 4-6) are supported by Statements H-3 and H-4. The return on rate base amount (Line 7) is supported by Statement B. As further described below, the amortization for the EDIT Regulatory Liability is supported by Statement H-3(a) and the Pipeline Integrity Regulatory Asset is supported by Schedule H-1(e).

Q. Please describe Cardinal's test period Rate Base as shown on Schedule 8, Page 1, as supported by Statement B of Exhibit ____ (KM-002).

A. Statement B summarizes the various items making up Cardinal's test period rate base of \$57,088,934 and presents an overall return on the rate base computed at 8.72%, which is supported later in my testimony and the testimony of Mr. David Haag in Exhibit DH-001. The test period rate base includes the December 31, 2021, balance for gas plant in-service supported by Statement C, the accumulated provision for depreciation, depletion and amortization supported by Statement D, working capital supported by Statement E, and the rate base-related accumulated deferred income taxes supported by Statement B-1. Cardinal's test-period recorded rate base has been adjusted (1) to remove non-rate base items from deferred taxes; and (2) to remove the impact of Asset Retirement Obligation ("ARO") on rate base.

1 **Q. Please describe Cardinal's ADIT as shown on Statement B-1 of Exhibit**
2 **____ (KM-002).**

3 A. Statement B-1 reflects Cardinal's ADIT and regulatory asset deducted from
4 the test period rate base. The amount of (\$26,415,420) shown on Line 68 of
5 Statement B-1 is supported by Mr. Michael Cousino in Exhibit MC-001.

6 **Q. Please describe Cardinal's Gas Plant in Service, shown on Schedule 3 and**
7 **Statement C of Exhibit ____ (KM-002).**

8 A. Schedule 3 shows a summary of Cardinal's Gas Plant in Service at its original
9 cost as recorded on Cardinal's books as of December 31, 2021, as adjusted.
10 The original cost of Cardinal's plant, which is made up of Transmission Plant,
11 Intangible Plant and General Plant, is \$156,507,839. Statement C provides a
12 detailed description of the plant items and their original cost. Cardinal's gas
13 plant in service has been adjusted to remove \$6,013 of ARO costs. The ARO
14 recorded on Cardinal's books are for sections of the 24-inch mainline where
15 there is a removal obligation. Consistent with Commission policy, Cardinal is
16 proposing to collect its ARO through a negative salvage rate and has proposed
17 a negative salvage rate sufficient to recover the estimated retirement and
18 decommissioning costs of all its facilities.

19 As shown on Statement I-1(a), Line 26, Cardinal's adjusted gas plant
20 in service is made up of original Cardinal plant facilities at a cost of

1 \$28,166,694 (Zone 1) and the Cardinal Expansion facilities at a cost of
2 \$128,347,157 (collectively, Zone 2).

3 **Q. Please explain Cardinal's Accumulated Depreciation as shown on**
4 **Schedule 5 and Statement D of Exhibit ____ (KM-002).**

5 A. Schedule 5 sets forth Cardinal's test period accumulated depreciation, by
6 zone. The December 31, 2021, balance in the Accumulated Provision for
7 Depreciation of Gas Utility Plant Account ("Accumulated Reserve") is
8 (\$73,410,809). Cardinal's Accumulated Reserve is made up of (\$73,355,857)
9 associated with plant facilities and \$54,951 of ARO costs. The Accumulated
10 Reserve balance has been adjusted to remove the \$54,951 of ARO costs. The
11 resulting Accumulated Reserve used in the calculation of Cardinal's rate base
12 is (\$73,355,857).

13 **Q. Please describe Cardinal's Working Capital, supported by Schedule 6,**
14 **Schedule 7, and Statement E of Exhibit ____ (KM-002).**

15 A. Schedule 6 details the components of working capital shown in Statement B
16 as part of rate base, and Schedule 7 states that Cardinal is not claiming an
17 allowance for cash working capital. Cardinal's working capital is comprised
18 of operating and construction supplies, stores, and line pack. The amount of
19 working capital included in rate base is based on Cardinal's average working
20 capital balance in each of these accounts for the thirteen months ending

1 December 31, 2021. The calculation of the thirteen-month average is shown
2 on Statement E. The average working capital amount as of December 31,
3 2021, is \$346,360.

4 **Q. Please describe Cardinal's Capital Structure and cost of debt as shown on**
5 **Statement F of Exhibit ____ (KM-002).**

6 A. The capital structure and cost of debt on Statement F is supported in Mr.
7 David Haag's testimony in Exhibit DH-001. Statement F reflects an imputed
8 capital structure comprised of 60% equity and 40% long-term debt and an
9 average cost of debt of 5.25%.

10 **Q. Please describe Cardinal's O&M Expense (including administrative and**
11 **general expense) as supported by Statement H-1 of Exhibit ____ (KM-**
12 **002).**

13 A. Statement H-1 is a summary by FERC account and functional classification of
14 O&M expenses for each month of the test period, the adjustments to various
15 O&M expenses, and the total, as adjusted, O&M expenses included in
16 Cardinal's cost of service. A detailed narrative explanation of, and the basis
17 and supporting work papers for, each of the 5 adjustments is included in
18 Statement H-1 (Statement H-1(a) through Statement H-1(d)). Consistent with
19 Cardinal's existing rate design and historical practice, Cardinal has classified
20 these costs as fixed (Statement H-1, Page 2, Line 32).

1 **Q. Please briefly describe the O&M expense adjustments, which are detailed**
2 **in Schedule H-1(a) through Schedule H-1(d), beginning with Adjustment**
3 **No. 1 – Electric Power and Fuel Costs.**

4 A. Adjustment No. 1, in the amount of \$30,607, eliminates costs that are tracked
5 by Cardinal, i.e., the cost of fuel and electric power. These costs are not
6 recovered in base rates; instead, they are recovered in Cardinal's electric
7 power and fuel tracking mechanism.

8 **Q. Please describe Adjustment No. 2 – Insurance Premiums.**

9 A. Adjustment No. 2 is required to reflect known and measurable changes in
10 Cardinal's General Liability and Property Insurance premiums. This
11 adjustment, in the amount of \$22,908, reflects the 2021-2022 insurance
12 premiums that went into effect in October 2021.

13 **Q. Please describe Adjustment No. 3 – Rent Expenses.**

14 A. Adjustment No. 3, reflects known and measurable changes to Cardinal's test
15 period cost of building rent, in the amount of \$2,528. In 2021, Cardinal
16 signed a five-year lease renewal effective August 1, 2021, for its offices in
17 Apex, North Carolina. This adjustment normalizes the lease agreement over
18 five (5) years to provide Cardinal a full year cost.

19

1 **Q. Please describe Adjustment No. 4 – Legal Expenses.**

2 A. Adjustment No. 4, adjusts Account No. 923, outside services employed, to
3 normalize outside legal expenses. Although Cardinal is billed annually for
4 outside legal expenses, these expenses double in a rate case year. Since 2021
5 was not a rate case year, this adjustment will normalize rate case expenses
6 over five (5) years, the presumed rate period of the rates proposed in the
7 Application, resulting in a total annual increase to operation and maintenance
8 expense of \$2,400.

9 **Q. Please describe Adjustment No. 5 – Rate Case Expenses.**

10 A. Adjustment No. 5, reflects an amortization of projected rate case expenses
11 assuming a fully litigated proceeding. Total projected rate case expenses
12 representing consultant fees are estimated at \$250,000. Cardinal proposes to
13 amortize these costs over five (5) years, the presumed rate period of the rates
14 proposed in the Application, resulting in a total annual decrease to operation
15 and maintenance expense of \$11,225.

16 **Q. Would you explain Cardinal’s annual Depreciation Expense as shown on**
17 **Schedule 5 and Statement H-2 of Exhibit ____ (KM-002)?**

18 A. On October 26, 2021, Cardinal filed a Depreciation Rate Study in Docket No.
19 G-39, Sub 46 (“Depreciation Rate Study”), in accordance with Rule R6-80,
20 which requires natural gas utilities to file a depreciation study every five

1 years. The rates shown on Schedule 5 and Statement H-2 were presented in
2 the Depreciation Rate Study and further supported in this Application by the
3 testimony of Mr. Steven R. Fall in Exhibit CPC-0001.

4 Statement H-2 calculates Cardinal's annual depreciation, depletion and
5 amortization expense of \$4,048,466 using the rates included in Cardinal's
6 Depreciation Rate Study. Statement H-2 further provides the actual annual
7 depreciation, depletion and amortization expense recorded on Cardinal's
8 books as of December 31, 2021, in the amount of \$3,856,754.

9 **Q. Please describe the calculation of Income Taxes shown on Statement H-3**
10 **of Exhibit ____ (KM-002).**

11 A. Statement H-3 supports the computation of the \$1,127,285 in income taxes
12 supported by Mr. Michael Cousino in Exhibit MC-001 in the Application.

13 **Q. Please describe the amortization period for flow back of the excess**
14 **deferred income taxes ("EDIT"), relating to certain reductions in the**
15 **corporate income tax rates, supported by Mr. Michael Cousino in Exhibit**
16 **MC-001.**

17 A. As described by Mr. Michael Cousino in Exhibit MC-001, the EDIT relating
18 to reductions in the corporate income tax rates, specifically the reduction of
19 the Federal Income Tax Rate from 35% to 21% and the reduction of the North
20 Carolina Corporate Income Tax rate from 3% to 2.5%, will be flowed back to

1 customers using the Reverse South Georgia Method and amortized over the
2 remaining service life of the assets. This flow back period is derived by
3 dividing the Net Depreciable Plant over the annual depreciation expense,
4 thereby estimating the remaining depreciable life of the assets. Using that
5 method, Cardinal calculated a flow back period of 26.69 years, as shown on
6 Line 8 of Statement H-3(a). Dividing the excess deferred taxes over the flow
7 back period of 26.69 years generates an annual amortization of (\$514,668), as
8 shown on Line 11 of Statement H-3(a). This amount is a reduction to
9 Cardinal's cost of service, which is included on Line 8 of Statement A.

10 **Q. Has Cardinal fully amortized the EDIT addressed by Paragraph 5 of the**
11 **Joint Stipulation approved by the July 27 Order in Docket No. G-39, Sub**
12 **38?**

13 A. No. The EDIT associated with the reduction in the North Carolina corporate
14 income tax change down to 3% addressed in that Joint Stipulation was to be
15 amortized over a 5-year period beginning August 2017. This EDIT is
16 projected to fully amortize August 31, 2022.

17

- 1 **Q. How does Cardinal plan to accomplish the flow back to its shippers, in**
2 **this proceeding, of the remaining unamortized balance of the EDIT**
3 **addressed by Paragraph 5 of the Joint Stipulation approved by the July**
4 **27 Order in Docket No. G-39, Sub 38?**
- 5 **A.** Due to the uncertainty of the effective date of new rates in this proceeding,
6 and in order to accomplish the complete flow back of that EDIT while not
7 over- or under-amortizing that amount, Cardinal has not reflected the
8 amortization of this EDIT in the rates in this Application, and is proposing to
9 flow back, in lump-sum payments, each shipper's respective share of the
10 unamortized EDIT balance in accordance with the following schedule:

Effective Date of Rates	Total Unamortized EDIT Balance
May 1, 2022	(\$154,887)
June 1, 2022	(\$110,849)
July 1, 2022	(\$66,811)
August 1, 2022	(\$22,773)
September 1, 2022	\$21,265
October 1, 2022	\$65,303
November 1, 2022	\$109,341
December 1, 2022	\$153,379
January 1, 2023	\$197,417
February 1, 2023	\$241,455

1 Within 30 days of the effective date of new rates in this proceeding, Cardinal
2 will refund to its shippers the applicable amount of unamortized EDIT balance
3 if the effective date of rates is on or before August 1, 2022. If the effective
4 date of rates is on or after September 1, 2022, Cardinal will create a regulatory
5 asset for the respective amount listed above for recovery in future rates. This
6 proposal gives effect to and will fulfill the agreement of the parties under
7 Paragraph 5 of the Joint Stipulation, while remaining consistent with the
8 requirement of the Joint Stipulation and Ordering Paragraph 5 of the July 27
9 Order that Cardinal file a rate case no later than March 15, 2022.

10 **Q. How does Cardinal plan to allocate the applicable lump sum payment to**
11 **its shippers?**

12 A. Cardinal proposes to allocate the applicable lump sum payment consistent
13 with the EDIT allocation methodology underlying the 2017 Joint Stipulation
14 Exhibit A – Settlement Cost of Service by Zone, i.e. by a rate base zonal
15 allocation factor.

16 **Q. Please describe what is shown on Statement H-4 of Exhibit ____ (KM-002).**

17 A. Statement H-4 reflects Cardinal's taxes other than income taxes, i.e.,
18 employment and property taxes for the 12-months ended December 31, 2021,
19 of \$523,228, adjusted to include the North Carolina Public Utility Regulatory
20 Fee. The adjusted taxes other than income tax expense is \$539,659.

1 VI. **Request for the Continuation of Deferred Treatment of Certain Pipeline**

2 **Integrity Expenses**

3 Q. Please explain how Cardinal intends to collect the deferred pipeline
4 integrity expenses (regulatory asset) established under Docket No. G-39,
5 Sub 38.

6 A. In Docket No. G-39, Sub 38, Cardinal received the approval in the July 27
7 Order on the Joint Stipulation to defer certain pipeline assessment costs for
8 amounts paid for services necessary to be compliant with the United States
9 Department of Transportation Pipeline and Hazardous Materials Safety
10 Administration (“PHMSA”) regulations and to ensure the safety and integrity
11 of the Cardinal Pipeline. In 2018, Cardinal completed its assessment and
12 incurred \$412,056 in expenses which was placed in a deferred account
13 (regulatory asset) for recovery in future rates. In this proceeding, as detailed
14 on Schedule H-1(e), Cardinal is seeking to collect these expenses over five (5)
15 years, the presumed rate period of the rates proposed in the Application, for an
16 annual amortization of \$82,411.

17 Q. Please explain why Cardinal is requesting to continue its deferred
18 treatment of Pipeline Integrity Expenses.

19 A. Cardinal has implemented its Integrity Management Program to comply with
20 the rules of the PHMSA and to ensure the safety and integrity of the Cardinal
21 Pipeline. Cardinal’s Integrity Management Program requires an assessment of

1 its pipeline every 7 years. Cardinal performed its last assessment in 2018 and
2 will perform its next assessment in 2025. Because the O&M for the test year
3 does not include any expenses for the required pipeline assessment, Cardinal
4 is proposing to place the actual costs of the 2025 assessment in a deferred
5 account (regulatory asset) for proposed recovery in future rates.

6 **Q. What is Cardinal's estimate of O&M expense to be incurred for the 2025**
7 **assessment?**

8 A. Cardinal anticipates that the O&M costs for its 2025 assessment will be
9 approximately \$450,000.

10 **VII. Request for Deferred Treatment of Cybersecurity Expenses**

11 **Q. Is Cardinal proposing a new mechanism to address the extraordinary**
12 **costs it will incur in response to another Federal mandate?**

13 A. Yes. With the increasing Cybersecurity threat to critical infrastructure and
14 recent cyber-attacks within our industry, governmental agencies are
15 mandating hardening of critical infrastructure against these cyber threats.
16 Cardinal assets are included in these mandates. These hardening efforts may
17 require replacement of non-compliant equipment that cannot be secured, and
18 deployment of new technologies to support Multifactor authentication. These
19 activities are resource intensive. Cardinal continues to work with the

1 governmental agencies driving these efforts to look for effective ways to meet
2 these mandates in the most cost effective and efficient way.

3 **Q. Please explain why Cardinal is requesting deferred treatment of**
4 **Cybersecurity Expenses.**

5 A. Cardinal is requesting deferred treatment of cybersecurity expenses because
6 the O&M for the test year does not include any expenses for Cardinal to be
7 compliant with Federal mandates. Cardinal is proposing to place the actual
8 costs incurred in a deferred account (regulatory asset) for proposed recovery
9 in future rates.

10 **Q. What is Cardinal's estimate of O&M expense to be incurred for**
11 **Cybersecurity?**

12 A. Cardinal anticipates that the O&M costs will be approximately \$175,000 to
13 \$1.2 million. However, this is a preliminary cost estimate as the Department
14 of Homeland Security's Transportation Security Administration may mandate
15 pipeline owners/operators to implement additional cybersecurity mitigation
16 measures. Since these costs are unpredictable and material in nature, this
17 could place additional pressure on Cardinal to file a rate case and threaten the
18 stability of Cardinal's rates.

1 **Q. How does Cardinal propose to collect the deferred Cybersecurity O&M**
2 **costs in its next rate case?**

3 A. Cardinal is proposing to amortize the deferred O&M cost for recovery in
4 future rates. At this time, Cardinal is not proposing to defer any capital costs
5 incurred as a result of complying with Federal mandates.

6 **VIII. Billing Determinants and Throughput**

7 **Q. Please provide an overview of the services provided by Cardinal.**

8 A. Cardinal is a fully subscribed pipeline offering firm transportation service in
9 two zones under Rate Schedule CFT. Cardinal also offers excess firm
10 transportation service designated as Excess CFT. All Excess CFT revenues
11 are flowed back to the CFT shippers. Cardinal has had no Excess CFT
12 revenues since its inception.

13 **Q. Please describe Statement G.**

14 A. Statement G sets forth, by zone, the actual revenues, billing determinants and
15 throughput compared to the proposed revenues, billing determinants and
16 throughput.

17 The proposed annual revenue shown on Statement G, Column E, Lines
18 8-13, is calculated using the proposed billing determinants multiplied by the
19 proposed rates. Cardinal's costs have historically been collected solely in its
20 demand rates, and I am not proposing to change this practice. Usage

determinants are also shown on Statement G but are not used in determining Cardinal's proposed revenue. The resulting proposed annual revenue is \$12,638,895, a \$919,530 increase from Cardinal's currently allowed revenue (Column E, Line 21).

IX. Cost Classification and Rate Design

Q. Please identify, in general, the cost classification and allocation methodologies that Cardinal used in this filing.

A. Cardinal has continued to design its transportation rates using the methodology underlying its current rates, which methodology was initially approved by the Commission in its order certifying Cardinal in Docket No. G-39. Consistent with Cardinal's existing rate design methodology, Cardinal's costs are classified as fixed and are recoverable through Cardinal's Zone 1 and Zone 2 reservation charges. Further, the CFT transportation service rates have been designed based on 100% of shipper contract entitlements by zone.

Q. Please explain what is shown in Statement I.

A. Statement I sets forth the classification and allocation of the overall cost of service between Cardinal's rate zones. Cardinal has three firm transportation rate zones – Zone 1A, Zone 1B and Zone 2. The Zone 1 costs and rates relate to the facilities that were part of the original Cardinal Pipeline and the Zone 2

1 costs and rates relate to the Cardinal Expansion facilities. In the design of the
2 proposed Zone 1 rates, Cardinal has used, where available, the actual rate base
3 and associated costs of the Zone 1 facilities as recorded on the books of
4 Cardinal as of December 31, 2021. In determining the rate base for each
5 zone, Cardinal computed the accumulated deferred income taxes for Zone 1
6 by comparing the book and tax basis in the gas plant in service for that zone
7 and allocating the remainder to Zone 2, as shown in footnote 3 of Statement I-
8 1. Further, the rate base includes materials and supplies that were allocated
9 between the two zones using a gross plant allocation factor, as shown in
10 footnote 1 of Statement I-1.

11 The allocation of Cardinal's cost of service by zone is shown on
12 Statement I-1 (Lines 8 through 14). Certain costs including O&M expenses,
13 pipeline integrity deferral, EDIT amortization, income taxes, and taxes other
14 than income are allocated between Zone 1 and Zone 2 using a rate base
15 allocation factor, as shown in footnote 2 of Statement I-1. The overall cost of
16 service for Zone 1 is \$1,814,222 and for Zone 2 is \$10,824,673. The Zone 1
17 cost of service is then divided between Piedmont and PSNC based upon their
18 ownership shares in the original Cardinal Pipeline of approximately 36% and
19 64%, respectively (see Footnote 1 of Statement I-2).

20 The Zone 1A monthly demand rate is determined by dividing the Zone
21 1A costs by Piedmont's annual demand determinants of 745,200 Dth (62,100

1 Dth/day x 12 months). The daily demand rate is computed by multiplying the
2 monthly demand rate by 12, and then dividing the result by 365.

3 The Zone 1B monthly demand rate is determined by dividing the Zone
4 1B costs by PSNC's annual demand determinants of 869,400 Dth (72,450
5 Dth/day x 12 months). The daily demand rate is computed by multiplying the
6 monthly demand rate by 12, and then dividing the result by 365.

7 The Zone 2 monthly demand rate is determined by dividing the Zone 2
8 costs by the annual demand determinants of 4,126,800 Dth (343,900 Dth/day
9 x 12 months). The daily demand rate is computed by multiplying the monthly
10 demand rate by 12, and then dividing the result by 365.

11 **Q. Have you proposed a change to the cost allocation or rate design methods**
12 **underlying the calculation of Cardinal's existing rates?**

13 A. No. The cost allocation and rate design methods underlying the calculation of
14 Cardinal's proposed rates are the same methods underlying the calculation of
15 Cardinal's current rates.

16 **Q. Are you supporting the rates shown on Schedule 2?**

17 A. Yes. Cardinal's proposed rates, shown on Schedule 2 were developed as
18 previously described and are supported by Statement I-1.

19

1 **IX. Revenue Impact of the Application**

2 **Q. Please explain the revenue impact of the Application, as detailed on**
3 **Schedule 8 of Exhibit ____ (KM-002).**

4 A. Schedule 8, which consists of three pages, provides an overview of the impact
5 of the proposed rates in the instant Application on Cardinal's revenue and the
6 resulting return on rate base. Schedule 8, Page 1, provides a statement of gross
7 revenues received, operating expenses and net operating income for return on
8 investment for the twelve months ended December 31, 2021, as recorded on
9 Cardinal's books, Cardinal's rate of return on its original cost rate base, and
10 rate of return on common equity. The revenue requirement Cardinal is
11 proposing in this Application represents an increase of \$919,530 from
12 Cardinal's most recently approved rates in Docket No. G-39, Sub 42.
13 Schedule 8, Page 3, details the adjustments to the recorded rate base, expenses
14 and revenues contained in the instant Application, and the resulting rate of
15 return on rate base.

16 Page 2 of Schedule 8 shows the overall return on investment and
17 return on equity embedded in Cardinal's present and proposed rates. Upon
18 acceptance, the proposed rates will allow Cardinal an 11.04% return on
19 common equity (Line 9, Column E) and an overall return of 8.72% on its
20 investment (Line 10, Column F).

21

1 **Q. Are you supporting any other schedules?**

2 A. Yes. I am supporting Schedule 9-A and Schedule 9-B. Schedule 9-A is
3 Cardinal's statement of income as of December 31, 2021. Schedule 9-B is
4 Cardinal's balance sheet for the twelve months ended December 31, 2021.

5 **Q. Does this complete your testimony?**

6 A. Yes, it does.

**BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION**

DOCKET NO. G-39, SUBS 46 and 47

EXHIBIT NO. KM-003

PREPARED REBUTTAL TESTIMONY OF

KERRI MILLER

ON BEHALF OF

CARDINAL PIPELINE COMPANY, LLC

June 27, 2022

OFFICIAL COPY

Jul 14 2022

**PREPARED REBUTTAL TESTIMONY OF
KERRI MILLER
ON BEHALF OF
CARDINAL PIPELINE COMPANY, LLC**

INTRODUCTION

1 **Q. Please state your name, current position, and business address.**

2 A. My name is Kerri H. Miller. I am a Lead Regulatory Analyst for Cardinal
3 Operating Company, LLC, as Operator of Cardinal Pipeline Company, LLC
4 ("Cardinal"). My business address is 2800 Post Oak Boulevard, Houston, Texas
5 77056.

6 **Q. Are you the same Ms. Miller who submitted prepared direct testimony**
7 **(Exhibit No. KM-001) in this proceeding?**

8 A. Yes.

9 **Q. Are you sponsoring any Exhibits?**

10 A. Yes. I am sponsoring Exhibit No. KM-004, which was prepared by me or under my
11 direction and supervision. I will refer to this exhibit in my testimony.

12 **Q. Please provide a brief overview of the purpose and scope of your rebuttal**
13 **testimony.**

14 A. The purpose of my testimony is to respond to testimony filed by the North Carolina
15 Utility Commission Public Staff ("Public Staff") witnesses Sonja R. Johnson and
16 Neha Patel on June 13, 2022 in this proceeding.

1 **Q. Please summarize Ms. Johnson's recommendations from her testimony.**

2 Ms. Johnson recommends certain accounting and ratemaking adjustments and
3 incorporates the adjustments recommended by other Public Staff witnesses from
4 the Public Staff's Energy and Economic Research Division.

5 Specifically, Ms. Johnson has made adjustments to reflect gas plant in
6 service, accumulated depreciation, and Accumulated Deferred Income Taxes for
7 actual entries recorded on Cardinal's books through March 31, 2022. In addition,
8 Ms. Johnson has made adjustments to Cardinal's filed depreciation expense by
9 reflecting various depreciation rate changes that were recommended by Public Staff
10 witness Ms. McCullar and applying those rates to the actual gas plant in service as
11 of March 31, 2022.

12 Further, Ms. Johnson has recommended an adjustment to Cardinal's filed
13 amortization of its Excess Deferred Income Taxes ("EDIT"). Her adjustment
14 utilizes the IRS-Approved Reverse South Georgia methodology for determining the
15 amortization period for the flowback to customers.

16 Ms. Johnson also incorporates the recommendations of Public Staff witness
17 Mr. Hinton regarding the overall cost of capital, capital structure, embedded cost
18 of long-term debt, and return on common equity. The rebuttal testimony of
19 Cardinal's expert witness Mr. David J. Haag will address those recommendations
20 on behalf of Cardinal.

1 As a result of Ms. Johnson's adjustments, Public Staff recommends that
2 Cardinal's revenue requirement be reduced by \$639,404 from the annualized
3 revenue of test year revenues produced by current rates.

4 **Q. Please summarize Ms. Patel's recommendations from her testimony.**

5 A. Ms. Patel's areas of investigation in this proceeding include: (1) review of
6 Cardinal's billing determinants; (2) review of the zonal allocation of costs; (3)
7 evaluation of Cardinal's allocation of the cost of service between Cardinal's two
8 zones; (4) derivation of Cardinal's rates; (5) evaluation of Cardinal's integrity
9 management costs and its request to place certain pipeline integrity costs in a
10 deferred account for proposed future collection; and (6) evaluation of Cardinal's
11 request for deferred treatment of certain cybersecurity expenses.

12 **Q. What concerns regarding the recommendations of Ms. Johnson and Ms. Patel**
13 **do you address in this rebuttal testimony?**

14 A. In this rebuttal testimony, I will address certain errors reflected in Ms. Johnson's
15 testimony related to the calculation of total gas plant in service, depreciation
16 expense, working capital, and the amortization of excess deferred income taxes
17 ("EDIT"). Those errors result in the cost of service calculated by Public Staff being
18 understated and, along with an error reflected in Ms. Patel's representation of the
19 appropriate amount of Zone 2 billing determinants which I address in my testimony,
20 result in Public Staff's recommended rates for Cardinal derived by Ms. Patel being
21 understated.

GAS PLANT IN SERVICE

1 **Q. How has Ms. Johnson calculated her total gas plant in service?**

2 A. Ms. Johnson used plant in service on Cardinal's books as of March 31, 2022 of
3 \$156,586,972, which includes (\$6,013) of Asset Retirement Obligations ("ARO").

4 **Q. Is it appropriate to include ARO's in the calculation of total gas plant in**
5 **service?**

6 A. No. Consistent with Commission policy, Cardinal collects its ARO through a
7 negative salvage rate.¹ Therefore, since Cardinal is recovering its ARO in the form
8 of a negative salvage rate on its transmission plant, all other ARO costs recorded
9 on Cardinal's books should be removed from the design of Cardinal's rates. When
10 Cardinal's gas plant in service is adjusted to remove ARO costs, the March 31,
11 2022 balance is \$156,592,986.

12 **Q. Has Ms. Johnson agreed that ARO should have been removed from the**
13 **calculation of total gas plant in service for ratemaking purposes?**

14 A. Yes. In response to a Cardinal discovery request, CPC-Staff-5.4 attached hereto in
15 Exhibit KM-004, Public Staff agrees that it is appropriate to remove ARO capital
16 for ratemaking purposes in the calculation of total Gas Plant In-Service.

¹ FIN 47 – Order Approving Deferred Accounting in Docket G-5, Sub 474. (PSNC)

DEPRECIATION EXPENSE

1 **Q. Please explain how Ms. Johnson calculates depreciation expense in this**
2 **proceeding.**

3 A. According to Ms. Johnson's testimony on Page 7, she calculated depreciation
4 expense by applying the various depreciation rates recommended by Public Staff
5 witness Ms. McCullar to the actual plant in service as of March 31, 2022.

6 **Q. Do you agree with Ms. Johnson's approach to calculating depreciation and**
7 **negative salvage expense?**

8 A. Yes, as described on Page 7 of Ms. Johnson's testimony, she indicates that Public
9 Staff has applied the recommended depreciation and negative salvage rates
10 proposed by Public Staff witness Ms. McCullar to the actual depreciable plant in
11 service as of March 31, 2022. However, Exhibit I, Schedule 3 referenced by Ms.
12 Johnson as support for Public Staff's calculation of and adjustments to depreciation
13 expense shows that Ms. Johnson has applied the recommended depreciation and
14 negative salvage rates to depreciable plant in service as of December 31, 2021, and
15 not as of March 31, 2022.

16 **Q. Has Ms. Johnson calculated a revised depreciation expense since the**
17 **publishing of her direct testimony?**

18 A. Yes. In response to a Cardinal discovery request, CPC-Staff-5.5 attached hereto in
19 Exhibit KM-004, Ms. Johnson calculates a revised depreciation expense of
20 \$4,060,636 after removing ARO amounts from gas plant in service.

1 **Q. Do you agree with the calculation of Ms. Johnson's revised depreciation**
2 **expense in CPC-Staff-5.5?**

3 A. No. Cardinal has determined that Ms. Johnson incorrectly included *fully*
4 *depreciated* general plant for Account No. 390, Structures and Improvements, in
5 her calculation of depreciation expense in her response to CPC-Staff-5.5.

6 **Q. What do you believe is the appropriate level of depreciation and negative**
7 **salvage expense using the depreciation and negative salvage rates proposed**
8 **Ms. McCullar?**

9 A. Using the actual *depreciable* gas plant in service as of March 31, 2022, I believe
10 the depreciation and negative salvage expense should total \$4,060,108. Please see
11 Exhibit No. KM-004 for supporting calculations.

WORKING CAPITAL

12 **Q. Do you agree with Ms. Johnson's calculation of and adjustment to working**
13 **capital shown on Exhibit I, Schedule 2?**

14 A. No. Cardinal provided updated working capital balances as of March 31, 2022 in
15 response to a Public Staff discovery request, Public Staff 5-4, which when taking
16 the 13-month average balance from March 2021 to March 2022, Public Staff's
17 working capital as shown on Exhibit I, Schedule 2, is \$334,821. However, in review
18 of workpapers provided by Public Staff in response to a Cardinal discovery request,
19 CPC-Staff-3.1 attached hereto in Exhibit KM-004, shows that Public Staff's 13-

1 month average for working capital should be \$357,899, which Cardinal contends is
2 the appropriate amount to include in rate base.

3 **Q. Has Ms. Johnson acknowledged that the working capital on Exhibit I,**
4 **Schedule 2, should have been \$357,899?**

5 A. Yes. In response to a Cardinal discovery request, CPC-Staff-5.2 attached hereto in
6 Exhibit KM-004, Public Staff agrees that its 13-month average for working capital
7 should be \$357,899.

AMORTIZATION OF EDIT

8 **Q. Describe Public Staff's calculation of the amortization of the Excess Deferred**
9 **Income Taxes ("EDIT") on Exhibit I, Schedule 3-1.**

10 A. Public Staff agrees with Cardinal's use of the IRS-approved Reverse South Georgia
11 Method to calculate the annual amortization of the EDIT regulatory liabilities
12 determined by Cardinal totaling \$13,737,017. In determining the amortization
13 period, Public Staff has divided total depreciation expense into net depreciable
14 plant and calculates an average remaining life (amortization period) of 20.26 years.

15 **Q. Do you agree with Public Staff's approach to calculating the amortization**
16 **period of the EDIT regulatory liabilities?**

17 A. Cardinal agrees that the Reverse South Georgia method is appropriate in this
18 proceeding for calculating the amortization of EDIT; however, Public Staff has

1 incorrectly included negative salvage expense in its calculation of the average
2 remaining life, and therefore has understated the amortization period.

3 **Q. Why is it appropriate to remove negative salvage expense in the calculation of**
4 **the amortization period of the EDIT regulatory liabilities?**

5 A. Negative salvage expense represents the pre-collection of dollars to be used for the
6 ultimate terminal decommissioning of a pipeline's assets. Unlike depreciation, it
7 has no bearing on the rate of loss in service value not restored by current
8 maintenance. Nor does it reflect the rate of wear and tear, decay, action of the
9 elements, inadequacy, obsolescence, changes in the art, or changes in demand and
10 requirements of public authorities that would dictate the average remaining life of
11 an asset. Therefore, in determining the average remaining life, only depreciation
12 expense should be used in the Reverse South Georgia.

13 **Q. What are the ramifications for understating the amortization period of EDIT**
14 **in rates?**

15 A. I have been advised that, if Cardinal, while under IRS audit, is found to have flowed
16 back excess deferred income reserves faster than the average rate assumption
17 method (ARAM) or an approved alternative method, such as the Reverse South
18 Georgia used in this proceeding, it would be considered in violation of the
19 depreciation normalization requirements of Section 203(e) of the Tax Reform Act
20 of 1986. I also have been advised that the effect of this violation would cause public
21 utility property as defined by IRC Section 168(c) to no longer qualify for

1 accelerated depreciation (MACRS) and force the use of straight-line depreciation,
2 for federal income tax purposes, over the regulatory life of the affected property.
3 The impact to Cardinal would be the loss of the most tax advantaged method of
4 depreciation for determining its taxable income.

5 **Q. What amortization period does Cardinal propose to use for EDIT in this**
6 **proceeding?**

7 A. The deprecation rates recommended by Public Staff witness Ms. McCullar are
8 roughly identical to the depreciation rates filed by Cardinal in this proceeding.
9 Therefore, Cardinal continues to contend that the appropriate average remaining
10 life is 26.69 years, as calculated by Ms. Miller, which properly excludes negative
11 salvage expense.

12 **BILLING DETERMINANTS AND RECOMMENDED RATES**

13 **Q. Do you agree with Ms. Patel's recommended rates shown on Exhibit B of her**
14 **testimony?**

15 A. I do not. First, Ms. Patel's representation of the Zone 2 annual Demand billing
16 determinants in Dekatherms ("Dths") is incorrect. Zone 2 determinants are
17 comprised of the Transportation Contract Quantities for two service agreements
18 between Piedmont Natural Gas Company, Inc. and Cardinal; and two service
19 agreements between Public Service Company of North Carolina, Inc. and Cardinal
20 that total 332,270 Mcf per day. Using a conversion factor of 1,035 British Thermal
21 Units per standard cubic foot of natural gas, the total Zone 2 billing determinants,

1 in Dths, is 343,900 Dths per day. Therefore, the appropriate annual billing
2 determinants for calculating monthly demand rates for Zone 2 is $343,900 \times 12$
3 months = 4,126,800 Dths.

4 **Q. Has Ms. Patel acknowledged that the appropriate annual billing determinants**
5 **for Zone 2 is 4,126,800 Dths?**

6 A. Yes. In response to a Cardinal discovery request, CPC-Staff-5.7 attached hereto in
7 Exhibit KM-004, Public Staff acknowledges that the annual Zone 2 billing
8 determinants should be 4,126,800 Dths.

9 **Q. Please continue.**

10 A. Overall, Cardinal does not agree with Ms. Patel's proposed rates, not solely because
11 of the determinants discrepancy discussed above, but also because Ms. Patel's rates
12 rely on recommendations to adjust certain cost items by Public Staff witnesses
13 Hinton, Johnson, and McCullar. While the depreciation rates recommended by
14 Public Staff witness Ms. McCullar are roughly identical to the depreciation rates
15 filed by Cardinal in this proceeding, I have shown herein that there are certain errors
16 related to Ms. Johnson's recommendations and Cardinal's expert witness Mr.
17 David J. Haag has presented Cardinal's objections to the recommendations of
18 Public Staff witness Mr. Hinton.

19 **Q. Does Cardinal still assert that the rates proposed by Cardinal in this**
20 **proceeding are just and reasonable?**

- 1 A. Yes. Based on Cardinal's expert witness David Haag's rebuttal testimony in Exhibit
2 No. DH-006, and in light of the errors described herein, including Public Staff's
3 acknowledgement of most of such errors, Cardinal continues to believe that its as-
4 filed rates are just and reasonable and should be approved as such in this
5 proceeding.
- 6 **Q. Does this conclude your prepared Rebuttal Testimony?**
- 7 A. Yes, it does.

**BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. G-39, SUBS 46 and 47**

**SETTLEMENT TESTIMONY OF
KERRI MILLER
ON BEHALF OF
CARDINAL PIPELINE COMPANY, LLC**

July 5, 2022

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Jul 14 2022

**SETTLEMENT TESTIMONY OF
KERRI MILLER
ON BEHALF OF
CARDINAL PIPELINE COMPANY, LLC**

1 **Q. Please state your name, current position, and business address.**

2 A. My name is Kerri H. Miller. I am a Lead Regulatory Analyst for Cardinal
3 Operating Company, LLC, as Operator of Cardinal Pipeline Company, LLC
4 (“Cardinal”). My business address is 2800 Post Oak Boulevard, Houston, Texas
5 77056.

6 **Q. Are you the same Ms. Miller who submitted prepared direct testimony**
7 **(Exhibit No. KM-001) and prepared rebuttal testimony (Exhibit No. KM-003)**
8 **in this proceeding?**

9 A. Yes.

10 **Q. Please provide a brief overview of the purpose and scope of your settlement**
11 **testimony.**

12 A. My settlement testimony explains cost of service and rate design adjustments to
13 Cardinal’s filed case as reflected in the Settlement Agreement and Stipulation
14 (“Stipulation”) in this proceeding filed on July 5, 2022 by Cardinal, the Public Staff
15 – North Carolina Utilities Commission, and Piedmont Natural Gas Company
16 (collectively, “Stipulating Parties”). My settlement testimony also addresses certain
17 other components of the Stipulation.

1 **Q. Do you believe the Stipulation is in the public interest and otherwise just and**
2 **reasonable?**

3 A. Yes. The Stipulation was negotiated as a package and reflects compromises by the
4 Stipulating Parties representing diverse and, at times, competing interests. The
5 Stipulation results in economic benefits to Cardinal's customers through the cost
6 reductions agreed to by the Stipulating Parties. In addition, entering into this
7 Stipulation avoids costly litigation expenses and provides rate certainty for the
8 Stipulating Parties. The Stipulation constitutes a reasonable resolution of the issues
9 in this proceeding and is, therefore, in the public interest and otherwise just and
10 reasonable.

11 **Q. Please explain the adjustments to Cardinal's cost of service as agreed to in the**
12 **Stipulation, and the associated impact to revenue.**

13 A. The cost-of-service adjustments in the Stipulation represent a reduction of
14 \$1,124,271 from the cost of service included in Cardinal's general rate case
15 application filed on March 15, 2022.

16 The individual cost of service adjustments in the Stipulation can be
17 categorized as follows:

18 Rate Base

19 The Stipulating Parties agree to use gas plant in service, accumulated depreciation,
20 working capital, and accumulated deferred income taxes as of March 31, 2022. This
21 settlement modification results in a \$723,088 downward adjustment to Cardinal's
22 rate base.

1 Return on Rate Base

2 The Stipulating Parties agree to use a weighted overall rate of return of 7.34%
3 which is multiplied by the agreed-upon rate base to calculate the overall allowed
4 return. For further support underlying this calculation, please see the settlement
5 testimony of Mr. David J. Haag on behalf of Cardinal for details regarding the
6 agreed-upon capital structure and overall cost of capital.

7 Operating Expenses

8 The Stipulating Parties agree to the operating expense as supported in my direct
9 testimony, Exhibit No. KM-001, and the direct testimony of Public Staff witness
10 Ms. Sonja Johnson.

11 Deferred Pipeline Integrity Expenses under Docket No. G-39

12 The Stipulating Parties agree on a five-year annual amortization of \$82,411 for
13 certain pipeline assessment costs incurred in 2018 for services necessary to be
14 compliant with the United States Department of Transportation Pipeline and
15 Hazardous Materials Safety Administration, commencing with the effective date of
16 rates in this proceeding.

17 In addition, Stipulating Parties have agreed to the continued deferral of
18 certain future pipeline integrity expenses as described in the direct testimony of
19 Public Staff witnesses Ms. Neha Patel and Ms. Sonja Johnson.

20 Depreciation Expense

21 The Stipulating Parties agree to calculate depreciation expense using the updated
22 gas plant in service as of March 31, 2022, and applying the associated depreciation

1 and negative salvage rates presented in the direct testimony of Public Staff witness
2 Ms. Roxie McCullar. Please see the settlement testimony of Mr. Steven Fall on
3 behalf of Cardinal for additional details supporting the agreed-upon depreciation
4 and negative salvage rates.

5 Income Taxes

6 The Stipulating Parties agree to a composite tax rate of 22.975% which is
7 comprised of the Federal Corporate Income Tax of 21% and North Carolina
8 Corporate State Income Tax Rate of 2.5%. For further support of these tax rates,
9 please see the direct testimony of Cardinal witness Mr. Michael Cousino, Exhibit
10 No. MC-001.

11 Excess Deferred Income Taxes (“EDIT”) and Associated Amortization

12 The Stipulating Parties agree that the unamortized balance of EDIT is \$13,737,017,
13 which is comprised of two regulatory liabilities: 1) EDIT as a result of the decrease
14 in the Federal Corporate Income Tax Rate from the Tax Cut and Jobs Act of 2017,
15 and 2) EDIT as a result of the decrease in the North Carolina State Corporate
16 Income Tax Rate from 3% to 2.5% for taxable year beginning on or after January
17 1, 2019. This EDIT balance is further supported by the direct testimony of Cardinal
18 witness Michael Cousino, Exhibit No. MC-001. In addition, the Stipulating Parties
19 agree to use the Reverse South Georgia method for the flowback of EDIT and have
20 agreed on an annual amortization of (\$518,652) over 26.49 years.

21 Furthermore, the Stipulating Parties agree to include language within the
22 Stipulation to protect Cardinal if it is found to have flowed back EDIT reserves

1 faster than the average rate assumption method (ARAM) or an approved alternative
2 method (South Georgia) and to be in violation of the depreciation normalization
3 requirements of Section 203(e) of the Tax Reform Act of 1986.

4 **Q. Please explain the Stipulation with regards to Rate Design.**

5 A. The Stipulating Parties agree on total annual billing determinants reflected in
6 Statement I-2 of Exhibit KM-002 submitted with my direct testimony. In addition,
7 the Stipulating Parties agree that the methods employed by Cardinal in determining
8 the cost of service applicable to each zone and the specific rates shall be the
9 methods employed on Exhibit KM-002, Statement I of my direct testimony.

10 **Q. Please explain how the remaining unamortized balance of EDIT from G-39,**
11 **Sub 38 will be treated.**

12 A. The Stipulating Parties agree that in order to accomplish the complete flow back of
13 the EDIT addressed by Paragraph 5 of the Joint Stipulation approved by the July
14 27, 2017 Order in Docket No. G-39, Sub 38, Cardinal will, within 30 days of the
15 effective date of rates in this proceeding, refund to its shippers the applicable
16 amount of unamortized EDIT balance in accordance with Exhibit C to the
17 Stipulation, which is supported by my direct testimony, Exhibit No. KM-001 at
18 page 18. If the effective date of rates in this proceeding is on or after September 1,
19 2022, Cardinal will establish a regulatory asset for the applicable amount of over-
20 amortized EDIT, as shown on Exhibit C to the Stipulation, and defer collection,
21 without carrying costs, to Cardinal's next general rate proceeding.

1 **Q. Are there any other aspects of this Stipulation that you would like to address?**

2 A. Yes. The Stipulating Parties have agreed that the effective date of settlement rates
3 will be on the first day of the first month following a Commission Order approving
4 the settlement rates. Additionally, Cardinal has agreed to file a general rate case on
5 or before March 15, 2027.

6 **Q. What is your overall conclusion regarding the Stipulation?**

7 A. As I have stated previously, the Stipulation constitutes a reasonable resolution of
8 the issues in this proceeding. Therefore, Cardinal submits that the Stipulation is in
9 the public interest and otherwise just and reasonable.

10 **Q. Does this conclude your prepared Settlement Testimony?**

11 A. Yes, it does.

Exhibit ____ (MC-001)

BEFORE THE

NORTH CAROLINA UTILITIES COMMISSION

Docket No. G-39, SUB 47

DIRECT TESTIMONY
OF
MICHAEL COUSINO

ON BEHALF OF

CARDINAL PIPELINE COMPANY, LLC

March 15, 2022

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MAY 15 2022

1 **I. Identification of Witness**

2 **Q. Please state your name, current position, and business address.**

3 A. My name is Michael P. Cousino. I am a Tax Consultant – Planning for The Williams
4 Companies, Inc. (“Williams”). My business address is 2800 Post Oak Boulevard,
5 Houston, Texas 77056.

6 **Q. Please summarize your education and professional background.**

7 A. I graduated from the University of St. Thomas in St. Paul, Minnesota in July 1983 and
8 received a Bachelor of Arts Degree in Accounting. I am a Certified Public Accountant
9 in the State of Texas.
10 I began working for Transco Energy Company in March 1985 as a Tax Analyst in the
11 Corporate Tax Compliance Department. From May 1995 through November 2002, I
12 worked as a Tax Analyst in the Williams Tax Compliance Department, focusing on
13 federal income tax compliance and financial reporting for regulated entities. From
14 November 2002 through March 2019, I worked in the Transcontinental Gas Pipe Line,
15 LLC (“Transco”) Rates Department as a Rates Analyst. In March of 2019, I began work
16 in the Williams Regulatory Tax Department.

17 **Q. Please outline your current responsibilities with Cardinal Pipeline Company,**
18 **LLC (“Cardinal”).**

19 A. My current responsibilities involve supervising the preparation of studies as well as the
20 financial reporting of Cardinal’s income taxes.

1 **Q. Have you previously submitted testimony before the North Carolina Utilities**
2 **Commission (“NCUC”) or any other regulatory Commission?**

3 A. I have not previously submitted testimony before the NCUC. I submitted testimony
4 before the Federal Energy Regulatory Commission (“FERC”) in Transcontinental Gas
5 Pipe Line Company, LLC’s general NGA section 4 rate proceedings in Docket No.
6 RP12-993, et al. and RP18-1126, et al.

7 **Q. What is the purpose of your testimony in this proceeding?**

8 A. The purpose of my testimony is to support certain tax-related items included in
9 Cardinal’s cost of service and rate base in this proceeding.

10 **Q. Are you sponsoring any statements or exhibits related to your direct testimony?**

11 A. Yes. I am sponsoring the following schedules in Cardinal’s rate change filing, included
12 in the testimony of Mrs. Kerri Miller in Exhibit No. KM-002.

13 Schedule B-1 Accumulated Deferred Income Taxes

14 Statement H-3 Allowance for Income Taxes

15 **Q. Were the exhibits, statements, and supporting schedules you are sponsoring**
16 **prepared by you or under your supervision?**

17 A. Yes, all identified statements and schedules to which I am testifying were prepared
18 under my supervision and direction.

1 **Q. Please describe Schedule B-1, Accumulated Deferred Income Taxes (“ADIT”).**

2 A. Schedule B-1 provides detailed ADIT balances, by specific cumulative timing
3 difference (“CTD”), recorded in Accounts 190, 282, and 283 for the test period ending
4 December 31, 2021. In addition, Schedule B-1 details those regulatory assets and
5 liabilities that impact rate base. The total rate base ADIT as of the end of the test period
6 is \$26,415,420.

7 **Q. Please describe any adjustments made to the ADIT balances.**

8 A. Adjustments to the ADIT balance include the removal of CTDs which do not impact
9 rate base. The CTDs classified as non-rate base are those items not related to Plant,
10 Property, and Equipment. Removal of non-rate base CTDs totaled a reduction of
11 \$49,402 to the ADIT liability balance. Further, a removal of the Reverse South Georgia
12 Regulatory Liability of \$331,039 as of December 31, 2021, for the unamortized excess
13 ADIT (“EDIT”) due to the reduction in North Carolina Corporate Income Tax rate
14 down to 3%, results in a net-of-tax reduction of \$254,983 to the ADIT liability. The
15 adjustments result in a total reduction to the ADIT liability of \$304,385.

16 The EDIT for the reduction in the North Carolina Corporate Income Tax rate down to
17 3% was addressed in the Joint Stipulation filed by the parties in Cardinal’s previous
18 rate proceeding in Docket No. G-39, Sub 38 and approved by the NCUC on July 27,
19 2017. Paragraph 5 of the Joint Stipulation provides for the amortization of that EDIT
20 over a 5-year period. Cardinal is proposing to flow back the remaining unamortized

1 EDIT amount in a lump sum payment to its shippers, coincident with the effective date
2 of new rates in this proceeding, as more fully described in the testimony of Mrs. Kerri
3 Miller in Exhibit No. KM-001.

4 **Q. Please describe the Regulatory Assets and Liabilities included in Rate Base ADIT.**

5 Included in rate base are the Regulatory Asset - AFUDC Equity, and the Regulatory
6 Liability - Reverse South Georgia for the reduction of Federal Income Tax Rate from
7 35% to 21% under the Tax Cuts and Jobs Act of 2017 ("TCJA") and the reduction of
8 the North Carolina Corporate Income Tax Rate from 3% to 2.5%.

9
10 The Regulatory Asset – AFUDC Equity, with a balance of \$728,603, relates to the
11 equity component of the allowance for funds used during construction ("AFUDC"),
12 which is necessary to offset the ADIT on the equity portion of AFUDC. That ADIT is
13 recorded pursuant to Generally Accepted Accounting Principles ("GAAP") and the
14 FERC Uniform System of Accounts, but the addition of this "credit" to ADIT is offset
15 by a "debit" to a regulatory asset. Because both are simply journal entries with a net
16 impact of zero, rate base is not affected. This offset accomplishes that result.

17 The Regulatory Liability – Reverse South Georgia of \$13,737,017 is the total amount
18 of EDIT to flow back to customers due to reductions in corporate income tax rates,
19 specifically the reduction of the Federal Corporate Income Tax Rate from 35% to 21%
20 under the TCJA of 2017 and the reduction of the North Carolina Corporate Income Tax
21 rate from 3% to 2.5%.

1 The first reduction for the decrease in the Federal Corporate Income Tax Rate, resulted
2 in a liability, including an income tax gross-up, of \$13,440,983. Cardinal filed with the
3 NCUC on November 9, 2018, a compliance filing under Docket No. M-100, Sub 148
4 and Docket No. G-39, Sub 42, which provided in Exhibit D a detailed calculation of
5 the liability. By order issued in those dockets on December 17, 2018, the NCUC
6 granted Cardinal's request to file its proposal to flow back this liability by no later than
7 March 15, 2022, which is the filing date of this proceeding.

8 The second reduction for the decrease in the North Carolina Corporate State Income
9 Tax Rate from 3% to 2.5% for taxable years beginning on or after January 1, 2019
10 resulted in a liability, including an income tax gross-up, of \$296,034.

11 **Q. Please describe the methodology for amortizing the EDIT shown on Statement**
12 **H-3(a) the Reverse South Georgia workpaper of Exhibit ____ (KM-002).**

13 A. The Reverse South Georgia workpaper details the calculation of the Reverse South
14 Georgia amortization, or flow back, of EDIT. Due to the changes in Cardinal's
15 effective income tax rates, a net regulatory liability for EDIT has been calculated. The
16 net EDIT in the amount of \$13,737,017, shown on Line 3 of Statement H-3(a), will be
17 flowed back to customers, using the Reverse South Georgia method in order to avoid a
18 tax normalization violation. Reverse South Georgia is an IRS approved method to
19 determine the amortization period for the flow back of EDIT resulting from income tax
20 rate changes as a reduction to the cost of service, over the remaining service life of the

1 assets. The remaining service life calculation is supported by Mrs. Kerri Miller in
2 Exhibit No. KM-001 and within the workpapers in Exhibit No. KM-002.

3 **Q. Please describe the income tax rates used in the calculation of the income Tax**
4 **Gross-up on Schedule H-3.**

5 The income tax rates used in the tax gross-up computation are comprised of the Federal
6 Corporate Income Tax of 21% and North Carolina Corporate State Income Tax Rate
7 of 2.5%, for a composite rate of 22.975%.

8 **Q. Does that conclude your direct testimony?**

9 A. Yes.

Exhibit ____ (DH-001)

BEFORE THE

NORTH CAROLINA UTILITIES COMMISSION

Docket No. G-39, SUB 47

DIRECT TESTIMONY
OF
DAVID J. HAAG

ON BEHALF OF

CARDINAL PIPELINE COMPANY, LLC

March 15, 2022

OFFICIAL COPY

MAY 15 2022

**PREPARED DIRECT TESTIMONY OF
DAVID J. HAAG
ON BEHALF OF
CARDINAL PIPELINE COMPANY, LLC**

I. WITNESS AND CASE INTRODUCTION

Q.1 Please state your name and employer.

A. My name is David J. Haag. I am President and Chief Executive Officer of Brown, Williams, Moorhead & Quinn, Inc. (“BWMQ”), a nationally recognized energy consulting firm based in the Washington, D.C. area.

Q.2 What is the nature of the work performed by your firm?

A. BWMQ offers technical, economic, and policy assistance to the various segments of the natural gas pipeline industry, oil pipeline industry, and electric utility industry on business and regulatory matters.

Q.3 Please briefly state your educational and professional background.

A. My personal curriculum vitae, which is found in Exhibit No. DH-002, details my career and work experience in the energy industry.

I joined BWMQ as Chief Executive Officer in September 2019 and became President and Chief Executive Officer in September 2020. Prior to this position, I was employed at a number of energy companies in roles of increasing responsibility as detailed in Exhibit No. DH-002. Over the course of my career, I have participated in numerous rate case and certificate proceedings before the Federal Energy Regulatory Commission (“FERC” or “Commission”) on behalf of multiple regulated companies. I have filed expert testimony and/or submitted affidavits on numerous topics, including rate design, proxy groups, cost of capital and rate of

1 return on equity, business risk assessment, capital structure, cost classification, cost
2 allocation, billing determinants, discount adjustments, market power, and other rate
3 and tariff related issues.

4 I graduated with Honors from the University of Calgary, Canada with a
5 Bachelor's Degree majoring in Economics and minoring in Management. I have
6 also completed a Graduate Certificate in Public Utility Regulation and Economics
7 from New Mexico State University. In addition I am currently completing my
8 Master's Degree in Economics with a specialization in Public Utility Regulation
9 and Economics at New Mexico State University. Since 2013, I have instructed a
10 Seminar for the Center for Public Utilities at New Mexico State University on the
11 determination of an interstate natural gas pipeline's regulated cost of service. I am
12 also a Dean of the Energy Bar Association Energy Law Academy, and am
13 responsible for the courses on natural gas industry regulation.

14 **Q.4 Are you sponsoring any exhibits in conjunction with your direct testimony?**

15 A. Yes, I am sponsoring the following exhibits:

16 Exhibit No. DH-001	Prepared Direct Testimony of David J. Haag
17 Exhibit No. DH-002:	Curriculum Vitae of David J. Haag
18 Exhibit No. DH-003:	DCF Analysis
19 Exhibit No. DH-004:	CAPM Analysis
20 Exhibit No. DH-005:	Proxy Group Capital Structures and Cost of Debt

21 **Q.5 Were all of the exhibits described in your previous answer prepared by you?**

22 A. Yes, all of the exhibits filed herewith were prepared by me.

1 **II. SCOPE OF TESTIMONY AND SUMMARY**

2 **Q.6 On whose behalf are you testifying in this proceeding?**

3 A. I am testifying on behalf of Cardinal Pipeline Company, LLC (“Cardinal”).

4 **Q.7 Please provide a brief overview of the scope and purpose of your testimony.**

5 A. The purpose of my testimony is twofold. Firstly, I undertake the required analysis
6 to determine the appropriate cost of capital for Cardinal to include in its cost-of-
7 service calculations in this proceeding. This determination includes a
8 recommended after-tax rate of return on equity (“ROE”), cost of debt, as well as a
9 capital structure for Cardinal in order to determine a just and reasonable cost of
10 capital for Cardinal’s natural gas transportation services. My recommended ROE
11 is calculated using the results of the Discounted Cash Flow (“DCF”) and Capital
12 Asset Pricing Model (“CAPM”) models as applied to both a core and expanded
13 proxy group of natural gas pipeline companies.

14 Secondly, I discuss and support the reasonableness of the imputed capital
15 structure proposed to be utilized by Cardinal for ratemaking purposes in this
16 proceeding.

17 **Q.8 How is your testimony organized?**

18 A. My testimony is organized as follows:

- 19 • In Section III – Facility Background, I provide a brief overview of the
20 Cardinal system.

- 1 • In Section IV – Cost of Capital - Background, I define the concepts of cost
2 of capital and rate of return on equity, and discuss how just and reasonable
3 results are calculated.
- 4 • In Section V – Proxy Group, I discuss in detail how I selected the proxy
5 group entities in this proceeding, as well as why each of these entities is
6 appropriate for inclusion in either the core or expanded proxy groups for
7 Cardinal at this time.
- 8 • In Section VI – DCF Analysis, I provide an overview of the DCF model and
9 discuss how I have applied this financial model to the proxy groups in this
10 proceeding and also present the resulting range of calculated returns.
- 11 • In Section VII – CAPM Analysis, I provide an overview of the CAPM
12 model and discuss how I have applied this financial model to the proxy
13 groups in this proceeding and also present the resulting range of calculated
14 returns.
- 15 • In Section VIII – Recommended Rate of Return on Equity, I discuss the
16 relative levels of risk faced by Cardinal as compared to the proxy groups,
17 and also explain why the median rate of return on equity (as calculated on
18 a pre-tax basis using the DCF model), is appropriate for determining just
19 and reasonable rates for Cardinal.
- 20 • Finally, in Section IX – Capital Structure and Cost of Debt, I discuss and
21 support the appropriate capital structure and cost of debt to be used by
22 Cardinal for its cost-of-capital in this proceeding.

1 **Q.9 How have you determined the cost of equity for Cardinal?**

2 A. I have determined the after-tax rate of return on equity using publicly-available
3 market and financial data applied to a proxy group of natural gas pipeline
4 companies to assess the relative risk, and hence the cost of equity, for Cardinal. To
5 make this determination, I have relied upon two well-recognized financial models,
6 namely the DCF and CAPM. These models were applied using publicly-available
7 market data from the Cardinal proxy group.

8 **Q.10 Please summarize your findings and recommendations.**

9 A. The results of my analysis indicate that Cardinal should reflect an after-tax ROE of
10 11.04% and a cost of debt of 5.25% for its cost of capital in this proceeding. This
11 ROE represents the median of the range of returns produced by the DCF model
12 using the core proxy group (as further supported by both the CAPM model and the
13 results from the expanded proxy group in this proceeding). The median of the range
14 from the core proxy group is the appropriate level of ROE for Cardinal at this time
15 given the relative level of risks that Cardinal faces as compared to the much larger
16 and more diversified core proxy group entities.

17 My recommended debt cost of 5.25% reflects the current average cost of
18 debt of the entities included in the core proxy group. This is a reasonable debt cost
19 to use for rate making purposes in light of the fact that as of May 2022 (which is
20 the maturity date of its long-term debt issuance), Cardinal will have paid off all of
21 its long-term debt.

1 Similarly, with regards to an appropriate capital structure, given that
2 Cardinal will not be issuing any stand-alone replacement debt and instead will be
3 financed entirely by equity from its corporate parents, I recommend that Cardinal
4 utilize an imputed capital structure of 60% equity and 40% debt for rate-making
5 purposes at this time.

6 III. FACILITY BACKGROUND

7 **Q.11 Please provide a brief description of the Cardinal pipeline.**

8 A. Cardinal is a North Carolina intrastate natural gas pipeline consisting of
9 approximately 104 miles of 24-inch diameter pipeline. The owners of Cardinal
10 include subsidiaries of The Williams Companies, Inc., Public Service Company of
11 North Carolina, Inc. ("PSNC"), and Piedmont Natural Gas Company, Inc
12 ("Piedmont").

13 The pipeline system consists of (1) the original 24-inch diameter, 37-mile
14 Cardinal Pipeline, which originates in Rockingham County, North Carolina and
15 extends to the southeast of Burlington, North Carolina and provides 134,550
16 dekatherms (Dth) per day of firm natural gas transportation capacity, (2) the 24-
17 inch diameter Cardinal Extension, which was placed into service on November 1,
18 1999, and extends approximately 67-miles from Burlington, North Carolina to the
19 Raleigh, North Carolina area providing 144,900 Dth per day of firm natural gas
20 transportation capacity, and (3) the 2012 Expansion Project, which was placed into
21 service on June 1, 2012, and added 199,000 Dth per day of firm natural gas

1 transportation capacity through the installation of compression in Guilford County,
2 North Carolina.

3 **IV. COST OF CAPITAL - BACKGROUND**

4 **Q.12 What is cost of capital?**

5 A. In the simplest of terms, cost of capital is the return expected by those who provide
6 capital (*i.e.*, funding) for a given entity. There are two major sources of capital for
7 an entity; namely debt and equity. Debt is provided primarily through corporate
8 bonds and / or loans made to the entity by financial institutions, while equity is
9 provided by investors, either public or private. Investors who invest in an entity
10 expect a return commensurate with the entity's risks – known as a rate of return on
11 equity ("ROE"), and lenders require interest payments on the funds loaned to the
12 company – the cost of debt - these costs reflect the underlying risks of the entity.
13 The cost of capital for an entity is the weighted average rate of the return on equity
14 and the cost of debt, as determined in the market.

15 The cost of common equity is the rate of return that investors require from
16 a company's common stock, which is determined by the market price of the
17 common stock. Specifically, the rate of return required by investors is reflected by
18 the market through changes in the entity's stock price. When an entity's stock price
19 decreases, the rate of return to investors from dividends will increase (all else being
20 equal), causing the cost of equity for the company to increase. The opposite also
21 holds true.

1 **Q.13 What is return on equity?**

2 A. Return on equity is a measure of the financial performance of a company.
3 Mathematically, it is determined by dividing net income by shareholders' equity at
4 a given point in time.

5 **Q.14 How is a fair and reasonable rate of return on equity determined for a**
6 **regulated natural gas pipeline?**

7 A. In determining an allowed ROE for a regulated natural gas pipeline, the U.S.
8 Supreme Court's opinions in *Bluefield Water Works & Improvement Co. v. Public*
9 *Service Commission of West Virginia* ("Bluefield"), 262 U.S. 679 (1923), and
10 *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944)
11 ("Hope") provide that the ROE for a regulated entity should be commensurate with
12 the return on investments in other enterprises having comparable risks.

13 The assessment of the returns received by entities with comparable risks is
14 generally made using a proxy group. The goal is to determine an ROE that is
15 sufficient to (1) maintain the financial integrity of the enterprise in question, (2)
16 enable the company to attract new capital (as necessary), and (3) provide a return
17 to the common equity investor that is in line with the returns of investments in other
18 enterprises of comparable risk.

19 Regulated natural gas pipelines are typically faced with the rebuttable
20 presumption that all natural gas pipelines fall into a broad range of average risk
21 absent highly unusual circumstances. Thus, as a starting point, regulators typically

1 set a pipeline's rate of return on equity at the median of the range of reasonable
2 returns determined from a risk appropriate proxy group.¹

3 **Q.15 Why is it necessary to use a proxy group to determine an appropriate rate of**
4 **return?**

5 A. The current market cost of common equity applicable to the regulated utility is
6 generally viewed as the proper cost-based standard for determining an appropriate
7 rate of return. To estimate the market costs of common equity for a natural gas
8 pipeline entity, two financial models are commonly used. These models are the
9 Discounted Cash Flow ("DCF") model and the Capital Asset Pricing Model
10 ("CAPM"). Both of these models require, amongst various other inputs, stock price
11 and dividend related information in order to estimate the level of ROE required by
12 investors.

13 Given these data requirements, it is not possible to directly calculate a DCF
14 and CAPM return for Cardinal, as Cardinal is not a publicly traded, stand-alone
15 entity. Therefore, the utilization of a proxy group of publicly traded natural gas
16 pipeline companies is necessary to estimate a range of ROEs that the market
17 requires for an investment in an entity that is comparable to Cardinal. A proxy
18 group is simply a group of representative natural gas pipeline entities with similar
19 risks used to set a range of reasonable returns for a regulated natural gas pipeline.

¹ For an example from FERC, *see* Portland Natural Gas Transmission System, Opinion No. 524, 142 FERC ¶ 61,197 (2013), order on reh'g, Opinion No. 524-A, 150 FERC ¶ 61,107 (2015).

1 **Q.16 How have you determined an appropriate cost of capital for Cardinal in this**
2 **proceeding?**

3 A. In order to determine an appropriate cost of capital to be used by Cardinal in this
4 proceeding, I have calculated both an ROE and cost of debt for Cardinal utilizing
5 two risk appropriate proxy groups – a core proxy group and an expanded proxy
6 group. Specifically, I have determined an appropriate ROE range for Cardinal
7 using the results of the DCF model. As a check on the reasonableness of the DCF
8 results, I have utilized the CAPM model. This is consistent with the reality that
9 investors are not likely to rely only on the results of only a single model. The data
10 and calculations used in the DCF and CAPM models are provided in my attached
11 Exhibits and are described in detail later in my testimony.

12 I have also recommended that Cardinal utilize an imputed hypothetical
13 capital structure to ensure that a just and reasonable cost of service is calculated.

14 Furthermore, in light of the fact that, as of May 2022, Cardinal will not have
15 any long-term debt on its books, I have utilized the average cost of debt calculated
16 across all of the core proxy group entities in order to calculate an appropriate cost
17 of debt for Cardinal to use for ratemaking purposes at this time.

18 **V. PROXY GROUP**

19 **Q.17 How did you select a proxy group for Cardinal in this proceeding?**

20 A. At this time there are no stand-alone publicly traded intrastate pipeline companies
21 that can be used to form a comparable proxy group for Cardinal. Many of the
22 companies that own intrastate pipelines are also heavily involved in other upstream

activities including: exploration and production, gas gathering and processing, as well as various gas treatment processes. However, there are a number of publicly traded entities that do own material levels of regulated interstate natural gas pipelines in addition to owning intrastate pipeline assets. These entities are generally more focused on the natural gas pipeline business line that Cardinal is involved in.

Therefore, in order to determine a risk appropriate proxy group of natural gas pipeline entities in this proceeding for Cardinal, I began by seeking to identify all entities currently recognized as natural gas pipeline entities, using the list of entities classified by Value Line as being part of either the “Oil/Gas Distribution” (a total of 13 entities) or “Pipeline MLP” industries (a total of 31 entities) as of December 2021. I evaluated each of these 44 companies and selected those entities that currently own material levels of regulated interstate natural gas transmission pipelines. The list of the Value Line entities that I reviewed, as well as the results of my initial screening, are as follows:

Table 1 – Potential Proxy Group Entities

<u>Company Name</u>	<u>Value Line Classification</u>	<u>Initial Screening Result</u>
Altus Midstream	Oil/Gas Distribution	No material interstate natural gas pipelines
Antero Midstream Corp.	Oil/Gas Distribution	No material interstate natural gas pipelines
Blueknight Energy Partners LP LLC	Pipeline MLPs	No material interstate natural gas pipelines
BP Midstream Partners LP	Pipeline MLPs	No material interstate natural gas pipelines
Cheniere Energy Inc.	Oil/Gas Distribution	Potential proxy group entity
Cheniere Energy Partners L.P.	Pipeline MLPs	Potential proxy group entity

Clean Energy Fuels Corp.	Oil/Gas Distribution	No material interstate natural gas pipelines
Crestwood Equity Partners LP	Pipeline MLPs	Natural gas assets are primarily storage assets
DCP Midstream LP	Pipeline MLPs	No material interstate natural gas pipelines
Delek Logistics Partners LP	Pipeline MLPs	No material interstate natural gas pipelines
Enbridge Inc.	Oil/Gas Distribution	Potential proxy group entity
Energy Transfer LP	Pipeline MLPs	Potential proxy group entity
EnLink Midstream, LLC	Oil/Gas Distribution	No material interstate natural gas pipelines
Enterprise Products Partners L.P.	Pipeline MLPs	No material interstate natural gas pipelines
Genesis Energy LP	Pipeline MLPs	No material interstate natural gas pipelines
Global Partners LP	Pipeline MLPs	No material interstate natural gas pipelines
Green Plains Partners LP	Pipeline MLPs	No material interstate natural gas pipelines
Hess Midstream Partners LP	Pipeline MLPs	No material interstate natural gas pipelines
Holly Energy Partners LP	Pipeline MLPs	No material interstate natural gas pipelines
Kimbell Royalty Partners, LP	Pipeline MLPs	No material interstate natural gas pipelines
Kinder Morgan Inc.	Oil/Gas Distribution	Potential proxy group entity
Lehigh Gas Partners LP	Pipeline MLPs	No material interstate natural gas pipelines
Magellan Midstream Partners L.P.	Pipeline MLPs	No material interstate natural gas pipelines
Martin Midstream Partners L.P.	Pipeline MLPs	No material interstate natural gas pipelines
MPLX LP	Pipeline MLPs	No material interstate natural gas pipelines
NGL Energy Partners LP	Pipeline MLPs	No material interstate natural gas pipelines
NuStar Energy LP	Pipeline MLPs	No material interstate natural gas pipelines
Oasis Midstream Partners LP	Pipeline MLPs	No material interstate natural gas pipelines
ONEOK, Inc.	Oil/Gas Distribution	Potential proxy group entity
PBF Logistics LP	Pipeline MLPs	No material interstate natural gas pipelines
Pembina Pipeline Corporation	Oil/Gas Distribution	Potential proxy group entity
Phillips 66 Partners LP	Pipeline MLPs	No material interstate natural gas pipelines
Plains All American Pipeline L.P.	Pipeline MLPs	No material interstate natural gas pipelines
Plains GP Holdings, L.P.	Pipeline MLPs	No material interstate natural gas pipelines
Rattler Midstream LP	Pipeline MLPs	No material interstate natural gas pipelines

Shell Midstream Partners L.P.	Pipeline MLPs	No material interstate natural gas pipelines
Sprague Resources LP	Pipeline MLPs	No material interstate natural gas pipelines
Suburban Propane Partners, L.P.	Pipeline MLPs	No material interstate natural gas pipelines
Summit Midstream Partners LP	Pipeline MLPs	No material interstate natural gas pipelines
TC Energy Corporation	Oil/Gas Distribution	Potential proxy group entity
Tellurian Inc.	Oil/Gas Distribution	Primary business is LNG export
Western Midstream Partners	Pipeline MLPs	No material interstate natural gas pipelines
The Williams Companies Inc.	Oil/Gas Distribution	Potential proxy group entity
World Fuel Services Corporation	Oil/Gas Distribution	No material interstate natural gas pipelines

1 As shown in Table 1, the initial screen provided the following nine entities that are
 2 recognized natural gas pipeline companies for potential inclusion in the Cardinal
 3 proxy group:

- 4 1. Cheniere Energy Inc. (“Cheniere”)
- 5 2. Cheniere Energy Partners, L.P. (“Cheniere Partners”)
- 6 3. Enbridge Inc. (“Enbridge”)
- 7 4. Energy Transfer LP (“Energy Transfer”)
- 8 5. Kinder Morgan Inc. (“Kinder Morgan”)
- 9 6. ONEOK, Inc. (“ONEOK”)
- 10 7. Pembina Pipeline Corporation (“Pembina”)
- 11 8. TC Energy Corporation (“TC Energy”)
- 12 9. The Williams Companies, Inc. (“Williams”)

Q.18 Should each of these nine entities be included in the Cardinal proxy group?

A. Each of these nine entities are among some of the largest midstream energy companies in existence today. As such, all of them are involved in a number of other business lines in addition to natural gas pipelines. To assess whether each of these nine entities are in fact appropriate for inclusion in the Cardinal proxy group at this time, I further analyzed each of these nine entities using the following additional screening criteria:

- the entity must have an investment grade credit rating,
- the entity pays regular dividends and has not cut or reduced its dividend in the latest six-month period,
- the entity must have a positive five-year earnings growth estimate as reported by the Institutional Broker's Estimate System ("IBES"),
- the entity has not been involved in any material merger or acquisition activity in the latest six-month period, and
- the entity must have at least 40% of its assets comprised of natural gas pipeline assets.

Q.19 Do each of these nine potential proxy group entities currently have an investment grade credit rating?

A. No. Table 2 below shows the credit ratings for each of these nine entities as of December 2021. To be considered creditworthy, the majority of the credit ratings for an entity must be investment grade, determined as follows: S&P rating of at least BBB-; Moody's rating of at least Baa3; and a Fitch rating of at least BBB-. An entity with a non-investment grade credit rating is by definition riskier than a creditworthy entity and investors will therefore require a higher rate of return to compensate them for this increased risk. As shown, both Cheniere and Cheniere

1 Partners are not currently investment grade and therefore will not be included in the
 2 Cardinal proxy group at this time, in order to ensure that the proxy group is risk
 3 appropriate for Cardinal.

Table 2 – Potential Proxy Group Entities - Credit Ratings

Company Name	Standard and Poor's	Moody's	Fitch Ratings
Cheniere	BB	Ba3	n/a
Cheniere Partners	BB	Ba2	BB+
Enbridge	BBB+	Baa1	BBB+
Energy Transfer	BBB-	Baa3	BBB-
Kinder Morgan	BBB	Baa2	BBB
ONEOK	BBB	Baa3	BBB
Pembina	BBB	n/a	n/a
TC Energy	BBB+	Baa2	A-
Williams	BBB	Baa2	BBB

4 **Q.20 Have any of the remaining seven entities cut or reduced their dividend within**
 5 **the past six months?**

6 A. No. None of these seven entities have reduced or cut their dividends in the past six
 7 months. Further, each of these entities pays a regular dividend.²

8 **Q.21 Why is it important that a potential proxy group entity has not recently cut or**
 9 **reduced its dividend?**

10 A. When an entity cuts its dividend, its calculated dividend yield immediately changes.
 11 This often leads to changes in anticipated growth rates as well, causing instability
 12 in the entity's stock price, thereby distorting DCF results.

² As companies headquartered in Canada, Enbridge, Pembina, and TC Energy pay their respective dividends in Canadian dollars, on a quarterly (Enbridge, TC Energy) or monthly (Pembina) basis. Therefore, the actual dividend amount received by U.S. stockholders will fluctuate based on the effective Canadian / U.S. dollar exchange rate.

1 **Q.22 Please discuss your next screening criteria.**

2 A. My next screening criteria requires that the entity have a positive five-year earnings
3 growth estimate as reported by the Institutional Broker's Estimate System
4 ("IBES"). As I discuss in greater detail later in my testimony, both the DCF and
5 CAPM financial models require as an input an anticipated growth rate that is relied
6 upon by investors. The IBES growth rate is a widely available growth rate
7 commonly used by investors and is publicly available via the Yahoo! Finance
8 website.³

9 From a risk perspective, entities that have been assigned a negative IBES
10 growth rate are expected to experience a decline in earnings. Therefore, to avoid
11 anomalous or illogical results when estimating the return on equity required by
12 investors in natural gas pipelines, I recommend the exclusion of any entities with a
13 negative IBES growth rate from the Cardinal proxy group at this time.

14 **Q.23 Do each of the remaining seven entities currently have a positive five-year**
15 **earnings growth estimate as reported by IBES?**

16 A. No. Table 3 below shows the IBES growth rates for each of these seven entities as
17 of December 2021. As shown, Energy Transfer does not currently have a positive
18 IBES growth rate estimate and therefore will be excluded from the Cardinal proxy
19 group at this time.

³ <https://finance.yahoo.com/>

Table 3 – Potential Proxy Group Entities – IBES Growth Estimates

<u>Company Name</u>	<u>IBES Growth Estimate</u>
Enbridge	8.11%
Energy Transfer	-6.90%
Kinder Morgan	7.39%
ONEOK	9.86%
Pembina	10.61%
TC Energy	1.55%
Williams	2.00%

Q.24 Have any of the remaining six entities been involved in any material merger or acquisition activity in the latest six-month period?

A. While each of these entities are regularly involved in the acquisition and / or divestiture of midstream assets, the majority of these transactions are small in comparison to the overall size and market capitalization of these entities and are therefore not material. Nevertheless, the following is a summary of recent merger, acquisition, and divestiture activity for these entities, none of which I consider to be material.

On June 7, 2021, Enbridge announced that it had entered into a definitive agreement to sell its 38.9% non-operating minority ownership interest in Noverco Inc. (“Noverco”) to Trencap L.P. for \$1.14 billion in cash. Closing of the transaction was completed in December 2021. Enbridge stated that the sale proceeds will initially be used to repay short term debt, and on this basis the transaction is expected to be neutral to distributable cash flow per share.⁴

⁴ See: <https://electricenergyonline.com/article/energy/category/mergers-acquisitions/58/903614/enbridge-announces-1-14-billion-sale-of-its-financial-interest-in-noverco.html>

1 More recently, on October 12, 2021, Enbridge announced that it had closed
2 on its previously announced agreement with EnCap Flatrock Midstream to acquire
3 Moda Midstream Operating, LLC for \$3.0 billion in cash. The transaction provides
4 Enbridge with a 100 percent operating interest in the Ingleside Energy Center, and
5 related crude oil pipeline and logistics infrastructure, located near Corpus Christi,
6 Texas, along with a 20 percent interest in the FERC regulated 670-thousand-barrel-
7 per-day Cactus II Pipeline.

8 Recent activity for Kinder Morgan includes a \$310 Million acquisition of
9 Kinetrex Energy, a renewable natural gas developer which includes two domestic
10 LNG production and fueling facilities as well as various renewable natural gas
11 facilities. The Kinetrex acquisition closed on August 20, 2021.

12 On July 9, 2021, Kinder Morgan closed on its \$1.225 Billion acquisition of
13 Stagecoach Gas Services LLC. The Stagecoach assets include four regulated
14 natural gas storage facilities with a total FERC-certificated working gas capacity of
15 41 billion cubic feet and a network of FERC-regulated natural gas transportation
16 pipelines with multiple interconnects to major interstate natural gas pipelines. In
17 the first quarter of 2021, Kinder Morgan and Brookfield Infrastructure Partners L.P.
18 sold a 25% minority interest in Natural Gas Pipeline Company of America LLC to
19 a fund controlled by ArcLight Capital Partners, LLC for \$830 million.

20 As of December 2021, ONEOK, Inc. has not announced any recent material
21 merger, acquisition, and divestiture activity.

1 On June 1, 2021, Pembina announced that it had entered into an agreement
2 to acquire all of the issued and outstanding shares of Inter Pipeline Ltd. (“IPL”).
3 However, on July 26, 2021, Pembina announced that the agreement with IPL had
4 been terminated and that Pembina was no longer pursuing the proposed acquisition.

5 On September 16, 2021, TC Energy announced that it was divesting its 15
6 percent interest in the Northern Courier Pipeline. The \$1.3-billion transaction was
7 expected to close in the fourth-quarter 2021.⁵

8 On July 1, 2021, Williams completed its acquisition of Sequent Energy
9 Management, L.P. (“Sequent”) from Southern Company Gas.

10 **Q.25 Should this merger and acquisition activity cause any of these six entities to be**
11 **excluded from the Cardinal proxy group?**

12 A. No. The first Enbridge transaction is a sale of a non-operated minority ownership
13 interest asset. Furthermore, because the transaction is expected to be neutral to
14 distributable cash flow per share, there is no reason to anticipate any measurable
15 financial impacts to the Enbridge share price as a result of this routine asset sale.
16 The second transaction is a purchase of a crude oil export facility which
17 complements Enbridge’s existing business and is expected to be immediately
18 accretive to Enbridge’s finances. I would not expect that either of these deals in
19 isolation would be cause for any concern related to the inclusion of Enbridge in a

⁵ <https://www.ogj.com/pipelines-transportation/article/14210471/tc-energy-sells-northern-courier-pipeline-to-suncor-indigenous-venture>

1 natural gas pipeline proxy group, particularly given the overall size of Enbridge –
2 a company with a market capitalization of over \$76 Billion as of December 2021.

3 Considering the recent Kinder Morgan activity, I would also not expect that
4 any of these deals in isolation would be cause for any concern related to the
5 inclusion of Kinder Morgan in a natural gas pipeline proxy group, particularly given
6 the overall size of Kinder Morgan – a company with a market capitalization of over
7 \$35 Billion as of December 2021.

8 There is also no need to exclude Pembina from the proxy group at this point,
9 as nothing is outstanding. The now terminated acquisition of IPL by Pembina did
10 not cause significant changes to the IBES growth rates and dividend yields of
11 Pembina. Given this fact, the now terminated proposed acquisition of IPL should
12 not disqualify Pembina from inclusion in the Cardinal proxy group at this time.

13 TC Energy's \$1.3-billion divestiture of its ownership stake in the Northern
14 Courier Pipeline should also not have any material impacts on TC Energy,
15 particularly in light of its current \$45 Billion market capitalization.

16 Similarly, Williams' acquisition of Sequent did not have any material
17 impact on the pipeline operations of Williams. Sequent is a natural gas marketer,
18 which focuses on asset management and the wholesale marketing, trading, storage
19 and transportation of gas for consumers, utilities, and producers. Furthermore,
20 Sequent was purchased for \$50 Million,⁶ an amount which is immaterial to

⁶ <https://marcellusdrilling.com/2021/05/williams-buys-energy-trader-sequent-for-50m-m-u-volume-profits-up/>

1 Williams, a company with total assets of over \$47 Billion as of December 31, 2021.
2 Given that Williams owns some of the largest natural gas pipelines in the United
3 States today, and that the acquisition of Sequent is immaterial to the overall
4 Williams organization, Williams should not be excluded from the Cardinal proxy
5 group as a result of this acquisition.

6 **Q.26 Have you analyzed the pipeline-related asset holdings of these remaining six**
7 **entities to determine if pipeline operations constitute a high proportion of the**
8 **business of these entities?**

9 **A.** Yes. As large, diversified entities, each of the remaining six potential proxy group
10 entities are involved in a number of other business lines in addition to natural gas
11 pipelines. Therefore, to confirm that each of these entities are reasonably
12 comparable to Cardinal (which is engaged solely in the business of operating an
13 intrastate natural gas pipeline), I have analyzed the overall level of pipeline assets,
14 as reported by business segment in the most recently available SEC Form 10-K or
15 Form 40-F for each of these entities to ensure that they are appropriate for inclusion
16 in the proxy group in this proceeding. Table 4 below provides the results of my
17 analysis.

Table 4 – Potential Proxy Group Entities - Pipeline Assets (2020)

<u>Company Name</u>	<u>Reported Business Segment</u>	<u>% of Assets</u>
Enbridge	Gas Transmission and Midstream	27.22%
Kinder Morgan	Natural Gas Pipelines	67.52%
ONEOK	Natural Gas Pipelines	9.45%
Pembina	Pipelines	42.53%
TC Energy	U.S. Natural Gas Pipelines	43.09%
Williams	Transmission & Gulf of Mexico	44.69%

As shown in Table 4, four of these six entities currently have pipeline assets in excess of 40% of their overall assets, which supports that pipelines represent a material focus for these four entities.

Q.27 Please provide a brief overview of the pipeline operations of each of the four potential proxy group entities with pipeline assets in excess of 40%.

A. Kinder Morgan is one of the largest pipeline and storage companies in existence today. With approximately 70,000 miles of natural gas pipelines, Kinder Morgan owns an interest in and operates one of the largest natural gas networks in North America, serving the major consuming markets in the United States. Kinder Morgan pipelines currently transport approximately 40% of the natural gas consumed in the United States, and the company has natural gas pipelines connected to every major natural gas supply area, including the Eagle Ford, Marcellus, Bakken, Utica, Uinta, Permian, Haynesville, Fayetteville, and Barnett.

Pembina is an established transportation and midstream service provider that owns an integrated system of pipelines transporting natural gas as well as various hydrocarbon liquids. Pembina's transmission pipeline assets are positioned in some of the most prolific gas producing regions in western Canada and the

1 United States and includes ownership interests in the Alliance and Ruby interstate
2 natural gas pipelines.

3 TC Energy is a well-established pipeline and energy company that operates
4 nearly 58,000 miles of natural gas pipelines and 653 Bcf of natural gas storage
5 across the United States, Canada, and Mexico, in addition to approximately 3,000
6 miles of crude oil and liquids pipelines. TC Energy currently owns or has
7 ownership interests in fourteen major FERC-regulated interstate natural gas
8 pipelines.

9 Williams operates one of the largest midstream businesses in the nation,
10 currently handling approximately 30% of all the natural gas volumes in the United
11 States. Williams owns some of the largest natural gas pipelines in the country,
12 including Transcontinental Gas Pipe Line Company, LLC, a 9,800-mile FERC-
13 regulated natural gas pipeline system extending from Texas, Louisiana,
14 Mississippi, and the Gulf of Mexico through Alabama, Georgia, South Carolina,
15 North Carolina, Virginia, Maryland, Delaware, Pennsylvania, and New Jersey to
16 the New York City metropolitan area, and Northwest Pipeline LLC, a 3,900-mile,
17 3.9 Bcf/d interstate natural gas transportation system which transports gas from the
18 San Juan basin in New Mexico, northwest to Washington state.

19 **Q.28 Have you also examined the pipeline-related asset holdings of Enbridge and**
20 **ONEOK?**

21 A. Yes. As shown in Table 4, Enbridge reports that 27.22% of its assets are devoted
22 to its Gas Transmission and Midstream segment in 2020. This segment includes

1 investments in natural gas pipelines and gathering and processing facilities in both
2 the United States and Canada. Although these levels do not meet the 40% threshold
3 I have proposed, it is nevertheless important to understand the major role that
4 Enbridge currently plays in the U.S. natural gas pipeline industry. Enbridge has
5 ownership interests in over two dozen natural gas pipelines and storage facilities in
6 North America. In fact, Enbridge's natural gas network moved about 20% of all
7 gas consumed in the United States in 2020. Enbridge also has significant
8 investments in regulated liquids pipelines; its Liquids Pipeline segment represented
9 51.60% of Enbridge's total assets in 2020.

10 Regarding ONEOK, as shown in Table 4 above, ONEOK has only 9.45%
11 of its respective assets devoted to natural gas pipelines. Accordingly, ONEOK also
12 falls short of the 40% threshold when considering solely its natural gas pipeline
13 assets and revenues. However, as discussed in the 2020 ONEOK Form 10-K, the
14 majority of ONEOK's business is related to its investments in both natural gas
15 gathering and processing as well as regulated natural gas liquids ("NGL")
16 infrastructure. The calculated percentages are well above the 40% threshold when
17 ONEOK's NGL segment is also considered, reflecting pipeline totals of 70.77% of
18 assets.

19 Given the importance and prominence of both Enbridge and ONEOK in the
20 natural gas pipeline industry, it is important that these two entities be included in
21 the ROE analysis of natural gas pipeline entities, notwithstanding that neither entity
22 meets the 40% threshold I have established.

1 **Q.29 What proxy group do you recommend be used for Cardinal at this time?**

2 A. In order to ensure that the Cardinal proxy group is both risk appropriate and of a
3 sufficient size, I recommend that the ROE calculations in this proceeding utilize
4 both a core proxy group (which meets all of the criterion above), as well as an
5 expanded proxy group which also includes Enbridge and ONEOK.

6 The four core proxy group entities include Kinder Morgan, Pembina, TC
7 Energy, and Williams.

8 In addition, I will also calculate the ROE metrics using an expanded proxy
9 group, which will include Enbridge and ONEOK in addition to the four members
10 of the core proxy group.

11 **VI. DCF ANALYSIS**

12 **Q.30 Please provide a brief overview of the DCF model.**

13 A. In its basic form, the DCF model, which is normally used to solve for the price of
14 a stock, is represented by the following mathematical formula:

15
$$P = D / (k-g)$$

16 where “P” is the price of the stock, “D” is the current dividend, “k” is the discount
17 rate or rate of return and “g” is the expected constant growth in dividend income
18 to be reflected in capital appreciation.

19 The DCF model seeks to explain the value of an asset “P” as the present
20 value of future expected cash flows “D” discounted at the appropriate risk-adjusted

1 rate of return. To produce a non-zero result, the DCF model requires that a
2 company pays dividends on its common stock.

3 **Q.31 How is the DCF model utilized to estimate the required rate of return on equity**
4 **for a natural gas pipeline?**

5 A. To estimate the rate of return on equity for a natural gas pipeline, the DCF formula
6 above is rearranged to solve for “k”, which provides an estimate of the rate of return
7 required by investors. The resulting equation is:

$$k = D/P + g$$

9 Solving for “k” calculates the current market cost of common equity for the specific
10 entity in question.

11 For cost-of-service calculation purposes, the DCF model is often adjusted
12 to incorporate a two-step procedure for determining growth (“g”) in the model,
13 averaging short-term and long-term growth estimates. Utilizing a two-step
14 procedure with appropriate weightings given to both the short-term and long-term
15 growth rates ensures that a proper balance is reflected in the growth rate utilized for
16 the DCF model, as the DCF model (being a constant growth model) assumes that
17 the growth in dividend yields will continue indefinitely. The short-term growth
18 rate estimates provided by IBES are for a five-year period only and therefore should
19 not be presumed to represent an indefinite growth rate for a given entity. As a
20 company and industry matures, we make the reasonable assumption that its long-
21 term growth rate can be approximated by the overall growth rate of the economy in
22 general, all else being equal.

1 **Q.32 What data sources have you used for the long-term growth rates in your two-**
2 **step DCF model?**

3 A. I have utilized the growth forecasts for the gross domestic product of the entire
4 United States economy for the long-term growth rate estimates in my two-step DCF
5 model. The long-term growth projection I have used is an average of forecasts
6 drawn from three different sources. These sources are: (1) Energy Information
7 Administration, Annual Energy Outlook; (2) Global Insight/IHS Markit: Long-
8 Term Macro Forecast – Baseline (U.S. Economy 30-Year Focus); and (3) the Social
9 Security Administration. Using three distinct data sources is consistent with the
10 notion that rational investors will rely upon multiple sources of available data when
11 making investment decisions.

12 I have compiled these estimates for long-term growth, as shown in Table 5
13 below. The average of the three estimates, which I use as the estimated long-term
14 growth rate in this proceeding, is 4.19%.

15 **Table 5 – Long Term Growth Rates as of December 2021**

Data Source	Long Term Growth Rates
Energy Information Administration	4.41%
Global Insight/IHS Markit	4.10%
Social Security Administration	4.05%
Average	4.19%

16 **Q.33 What data sources have you used for the short-term growth rates in the two-**
17 **step DCF model?**

18 A. For the short-term growth estimates in the DCF model, I have used the five-year
19 growth forecasts for each proxy group entity produced by IBES shown in Table 3

1 above. The IBES growth rates for each entity are publicly available on the Yahoo!
2 Finance webpage.⁷

3 **Q.34 What weighting between short-term and long-term growth rates do you**
4 **recommend?**

5 A. As stated above, it is important that appropriate weightings be given to both the
6 short-term and long-term growth rates in the two-step DCF model to ensure that a
7 proper balance is reflected in the utilized growth rate. While the DCF model
8 assumes a constant growth rate in dividends forever, the cost-of-service rates set
9 for a pipeline do not normally remain in effect in perpetuity, but rather are typically
10 reviewed and updated periodically by regulators. This supports utilizing a
11 weighting that is more dependent upon the short-term growth rates as opposed to
12 long-term growth rates. As such, I recommend applying a two-thirds weighting to
13 the short-term growth forecasts and applying a one-third weighting to the long-term
14 growth forecasts for calculating the growth rate in the DCF model in this
15 proceeding.

16 **Q.35 How have you computed the dividend yield component in the DCF model?**

17 A. I have calculated the dividend yield in the DCF model (calculated as dividends
18 divided by stock price or D/P) using the average of the high and low stock prices
19 for each of the most recently reported six months; dividing the indicated annual
20 dividend for each month by the average stock price for the same month (resulting
21 in a dividend yield for each of the reported six months); and averaging these

⁷ See <https://finance.yahoo.com/>

1 monthly dividend yields. I then multiplied the dividend yield by (1+.5g) to account
 2 for the fact that dividends are paid on a quarterly basis. For the purposes of this
 3 (1+.5g) adjustment, I have used only the short-term (IBES) growth projection. As
 4 such, I have used the following DCF formula to estimate the required rate of return
 5 for each member of the Cardinal proxy group:

$$k = D/P(1+0.5g) + g$$

7 **Q.36 Have you computed the average and adjusted dividend yields for each of the**
 8 **proxy group entities?**

9 A. Yes. The average dividend yield for each proxy group company is reported in
 10 Table 6 below. As discussed above, I have multiplied the average dividend yields
 11 by (1+.5g), with “g” reflecting only the short-term IBES growth rate for this
 12 adjustment, to account for the fact that dividends are normally paid on a quarterly
 13 basis. The resulting adjusted average dividend yields are also shown in Table 6
 14 below.

15 **Table 6 – Average Dividend Yield (Six months ended December 2021)**

<u>Proxy Group Entity</u>	<u>Average Dividend Yield</u>	<u>Adjusted Dividend Yield</u>
Enbridge	6.80%	7.08%
Kinder Morgan	6.46%	6.70%
ONEOK	6.54%	6.86%
Pembina	6.32%	6.66%
TC Energy	5.68%	5.72%
Williams	6.26%	6.32%

1 **Q.37 Have you utilized a low-end and/or high-end outlier test to assess the results of**
2 **the DCF analysis?**

3 A. Yes. I have applied a standard statistical test to examine whether any of the proxy
4 group members could be considered outliers and thus removed from the analysis.
5 Specifically, I examined whether any of the DCF results (in both the core and
6 expanded proxy groups) were greater than two standard deviations from the mean
7 of the sample and found that all of the results were within this range.⁸

8 **Q.38 Please summarize the results of your DCF analysis.**

9 A. Applying the DCF methodology to the four-member core proxy group yields
10 calculated ROEs that range from 8.15% to 15.13%, with a median of 11.04%.

11 Applying the DCF methodology to the six-member expanded proxy group
12 yields calculated ROEs that range from 8.15% to 15.13%, with an increased
13 median of 13.45%. The detailed DCF calculations are shown in my Exhibit DH-
14 003.

15 **VII. CAPM ANALYSIS**

16 **Q.39 Please provide a brief overview of the CAPM model.**

17 A. The CAPM model is based on the theory that the market-required rate of return for
18 a security is equal to the “risk-free rate” plus a “market-risk premium” associated
19 with that security. Investors use CAPM analysis as a measure of the cost of equity

⁸ In statistical analysis, under a normal distribution, 95% percent of data will fall within two standard deviations from the mean.

1 relative to risk. The CAPM relies on the understanding that investors require higher
2 expected rates of return as risk increases.

3 **Q.40 How have you determined the market-risk premium using the CAPM model?**

4 A. To determine the CAPM market-risk premium, I have utilized the following
5 approach: (1) I have used, as the risk-free rate, the 30-year U.S. Treasury average
6 historical bond yield over the six-month period ending December 2021 (consistent
7 with the dates used to produce the DCF study in this proceeding), (2) I have
8 estimated the expected market return using a forward-looking approach based on a
9 one-step DCF analysis of all dividend paying companies in the S&P 500, and (3) I
10 have excluded all S&P 500 companies with growth rates that are negative or in
11 excess of 20% as outliers. In addition, I have used *Value Line* as the source for the
12 betas required in the CAPM analysis.

13 **Q.41 What is beta?**

14 A. In finance, beta “measures a security’s volatility in relation to that of the market as
15 a whole and is generally computed from a linear regression analysis based on past
16 realized returns over some past time period.”⁹ This volatility is assumed to equate
17 to a security’s implied investment risk. To measure beta, a comparison is made
18 between the movements in the price of a given stock and a selected market index,
19 such as the S&P 500 Index or New York Stock Exchange Composite Index. Beta
20 measures the relative risk of an entity compared to the market index as a whole by

⁹ See Roger A. Morin, *New Regulatory Finance* at 70 (Public Utilities Reports, Inc.) (2006).

1 assessing the volatility of the asset as compared to the overall volatility of the
2 market index. Thus, a beta of 1.00 indicates that an asset has a similar risk to the
3 market as a whole (as represented by the index). A beta greater than 1.00 indicates
4 that the asset has a greater inherent risk than the market as a whole, while a beta
5 less than 1.00 indicates that an asset has lesser inherent risk than the market as a
6 whole. As such, investors can utilize beta as a tool to evaluate the implied risk of
7 individual entities.

8 **Q.42 How does *Value Line* calculate its beta values?**

9 A. *Value Line* derives its betas from a regression analysis of the relationship between
10 weekly percentage changes in the price of a stock and weekly percentage changes
11 in the New York Stock Exchange Composite Index over a period of five years. In
12 the case of a stock with a shorter price history, a smaller time period is used, but
13 two years is the minimum.¹⁰

14 **Q.43 How is the CAPM model utilized for ROE estimation purposes for natural gas**
15 **pipelines?**

16 A. The CAPM model estimates the cost of equity by adding the risk-free rate to the
17 market-risk premium multiplied by beta. Mathematically, the formula for the
18 CAPM is represented as follows:

19
$$k = R_f + B * (R_m - R_f)$$

¹⁰ See: <http://www.valueline.com/Glossary/Glossary.aspx>

1 where “k” is the cost of equity estimate, “Rf” is the risk-free rate, “Rm” is the
2 expected market return, and “B” = *Value Line* beta, which measures the volatility
3 of the security compared to the rest of the market.

4 A size premium adjustment is also normally utilized when determining the
5 CAPM zone of reasonableness to account for the differences in size between proxy
6 group entities and the dividend-paying companies in the S&P 500.¹¹

7 Therefore, the formula which I have utilized for the CAPM is as follows:

8
$$k = R_f + B * (R_m - R_f) + s$$

9 where “s” is the size adjustment for the security to account for the notion that small
10 company betas undercompensate for their risk and large company betas
11 overcompensate for their risk in the CAPM model results.

12 **Q.44 How are the CAPM results applied to the proxy group entities in this**
13 **proceeding?**

14 A. The results of the CAPM model are applied to each of the members of the Cardinal
15 proxy groups in this proceeding by adding the risk-free rate to each entity’s *Value*
16 *Line* beta multiplied by the market risk premium (*i.e.*, $R_m - R_f$) calculated in the
17 one-step DCF model applied to the applicable S&P 500 companies. A size
18 adjustment is then added to this result to obtain the CAPM cost of equity for each
19 entity in the proxy group.

¹¹ For example, see Roger A. Morin, *New Regulatory Finance*, 187 (Public Utilities Reports, Inc. 2006) (Morin) (finding that use of a size premium adjustment is “a generally accepted approach to CAPM analyses”).

Q.45 What data sources have you used to determine the risk-free rate in the CAPM model?

A. I have used the 30-year U.S. Treasury average historical bond yield for the six-month period ending December 2021 to determine the risk-free rate “Rf”, as summarized in Table 7 below.

Table 7 – 30-year U.S. Treasury Average Historical Bond Yields¹²

<u>Month</u>	<u>30-Year Bond Yield</u>
July 2021	1.94%
August 2021	1.92%
September 2021	1.94%
October 2021	2.06%
November 2021	1.94%
December 2021	1.85%
Six-Month Average	1.94%

Q.46 What are the *Value Line* betas for each of the proxy group entities?

A. The *Value Line* adjusted betas for each of the proxy group entities as of December 2021 are shown below in Table 8. This data is publicly available at www.valueline.com.

Table 8 – *Value Line* Adjusted Betas as of December 2021

<u>Proxy Group Entity</u>	<u>Value Line Adjusted Beta</u>
Enbridge	0.90
Kinder Morgan	1.15
ONEOK	1.50
Pembina	1.10
TC Energy	1.05
Williams	1.20

¹² Source: <https://www.federalreserve.gov/datadownload/Choose.aspx?rel=H15>

1 **Q.47 How is the expected market return (Rm) determined by the CAPM model?**

2 A. The expected market return “Rm” is determined using a forward-looking approach
3 based on a one-step DCF analysis of all dividend-paying companies in the S&P
4 500, excluding any S&P 500 companies with growth rates that are negative or in
5 excess of 20%. The short-term growth projections in the CAPM analysis reflect
6 the IBES growth rates of all dividend-paying S&P 500 companies.

7 **Q.48 Please describe how you have calculated the expected market return (Rm) and**
8 **market risk premium.**

9 A. As shown in my Exhibit No. DH-004, to calculate the “Rm”, I have first removed
10 the S&P 500 companies that (1) do not pay dividends, or (2) that have IBES growth
11 rates that are negative or in excess of 20 percent to avoid anomalous results. The
12 “Rm” is then calculated as the market-capitalization weighted average of the
13 current market dividend yield (1.77%) plus the market-capitalization weighted
14 average IBES five-year growth rate (12.39%) for each eligible stock, yielding a
15 total Rm of 14.16%.

16 To calculate the market risk premium, we subtract the “Rf” of 1.94% from
17 the Rm of 14.16%, yielding a CAPM market risk premium of 12.22%. This market
18 risk premium is then multiplied by each proxy group entity’s *Value Line* beta and
19 added to the risk-free rate to obtain the Unadjusted Returns shown in my Exhibit
20 No. DH-004.

1 **Q.49 Have you applied a size adjustment factor to the CAPM results?**

2 A. Yes. I have applied a size adjustment factor “s” to the Unadjusted Return for each
3 proxy group entity. The size adjustments reflect the December 2020 Duff &
4 Phelps’ Cost of Capital Navigator size premia.

5 **Q.50 Have you utilized a low-end and/or high-end outlier test to assess the results of**
6 **the CAPM analysis?**

7 A. Yes. I have applied a standard statistical test to examine whether any of the proxy
8 group members could be considered outliers. Specifically, I examined whether any
9 of the CAPM results were greater than two standard deviations from the mean of
10 the sample and found that all results were within this range.¹³

11 **Q.51 Please summarize the results of your CAPM analysis.**

12 A. Applying the CAPM methodology to the four-member core proxy group yields a
13 calculated ROE range from 14.55% to 16.38%, with a median result of 15.82%.

14 Applying the CAPM methodology to the six-member expanded proxy
15 group yields a calculated ROE range from 12.72% to 20.77%, with a median result
16 of 15.82%. The detailed CAPM calculations are shown in my Exhibit DH-004.

¹³ In statistical analysis, under a normal distribution, 95% percent of data will fall within two standard deviations from the mean.

VIII. RECOMMENDED RATE OF RETURN ON EQUITY

Q.52 What is the next step in determining the appropriate rate of return on equity for a natural gas pipeline?

A. Once the DCF and CAPM results have been calculated, the next step in determining the appropriate rate of return on equity is to assess the relative levels of risks faced by the entity under examination (*i.e.* Cardinal in this proceeding) compared to the entities included in the proxy group.

As previously discussed, regulated interstate natural gas pipelines are typically faced with the rebuttable presumption that all natural gas pipelines fall into a broad range of average risk absent highly unusual circumstances. Thus, as a starting point, an interstate natural gas pipeline's rate of return on equity is typically set at the median of the range of reasonable returns determined from a risk appropriate proxy group. Applying this approach to Cardinal, it is important to analyze whether Cardinal is facing any unique risks which would warrant an adjustment to its rate of return on equity above the median results of the proxy group. If Cardinal faces risks that are on balance greater than those faced by the members of the proxy group, a rate of return on equity above the median of the proxy group would be warranted in order to ensure that the rate of return on equity utilized properly reflects the underlying risks of the pipeline.

Q.53 Is Cardinal facing any unique risks compared to the proxy group entities?

A. In short, yes. Cardinal is a much smaller entity than each of the six members of the proxy groups, which must be considered when analyzing and comparing Cardinal's

1 overall risks to the proxy group entities. The proxy group entities are large,
2 diversified natural gas pipeline companies, whereas Cardinal is a stand-alone,
3 single intrastate pipeline providing its shippers with access to far fewer markets and
4 supply areas compared to the multiple long-line natural gas pipelines owned by the
5 four proxy group entities. As discussed previously, investment risk increases as
6 company size diminishes, all else remaining constant. The fact that Cardinal is
7 significantly smaller than the entities in the proxy group suggests that it faces risks
8 that are greater than the proxy group entities.

9 Furthermore, applying an imputed 60/40 equity to debt capital structure to
10 Cardinal is not necessarily reflective of what the actual capital structure would be
11 for such a small intrastate pipeline system – as it is uncertain whether a lender
12 would provide any substantive long-term financing for such a stand-alone entity at
13 interest rates that are comparable to those enjoyed by the much larger and more
14 diversified proxy group entities.

15 **Q.54 Please compare Cardinal's size with the size of the entities at the top of the**
16 **DCF and CAPM ranges?**

17 A. As shown on my Exhibit No. DH-003, the entity at the top of the DCF range in this
18 proceeding is Pembina, with a calculated DCF return of 15.13%. As shown in its
19 2020 Annual Report, Pembina currently has property, plant and equipment in-
20 service of over \$18 Billion, generating 2020 revenues of approximately \$5.9
21 Billion. Pembina describes itself as having integrated assets and commercial
22 operations along the majority of the hydrocarbon value chain which allow it to offer

1 a full spectrum of midstream and marketing services to the energy sector. Pembina
2 is unquestionably larger in size than Cardinal and is much more diversified,
3 supporting the reasonableness of applying at least the median DCF proxy group
4 result to Cardinal in this proceeding.

5 Similarly, as shown on my Exhibit No. DH-004, the entity at the top of the
6 CAPM range in this proceeding is ONEOK, with a calculated CAPM return of
7 20.77%. As reported in its most recent Form 10-K, ONEOK owns, in whole or in
8 part: approximately 1,500 miles of regulated interstate natural gas pipelines with
9 3.5 Bcf/d of peak transportation capacity; 5,200 miles of regulated intrastate
10 transmission pipelines with peak transportation capacity of 4.1 Bcf/d; and 52.2 Bcf
11 of total active working natural gas storage capacity. ONEOK is also a midstream
12 service provider that owns some of the nation's premier natural gas liquids systems,
13 connecting NGL supply in the Mid-Continent, Permian and Rocky Mountain
14 regions with key market centers and an extensive network of natural gas gathering,
15 processing, storage, and transportation assets.

16 ONEOK is significantly larger and more diversified than Cardinal, again
17 supporting the reasonableness of applying at least the median proxy group result to
18 Cardinal in this proceeding.

19 **Q.55 What other risks does Cardinal currently face?**

20 A. As an intrastate pipeline, Cardinal faces a number of other risks, including: market
21 risks, competition, and operating risks, amongst other risks. I discuss each of these
22 risks facing Cardinal in greater detail below.

1 **Q.56 Please discuss these other risks currently faced by Cardinal and how they**
2 **compare to the risks of the four entities in the Cardinal proxy group?**

3 A. The market risks faced by Cardinal are mitigated by the extent to which its available
4 firm capacity has been subscribed. Cardinal's initial system capacity (i.e., the
5 capacity which was in service prior to the 2012 expansion) continues to be
6 contracted on a firm basis by Piedmont and PSNC, which are both established Local
7 Distribution Companies ("LDCs") and part-owners of Cardinal. These contracts
8 currently operate under a year-to-year evergreen basis. Cardinal's 2012 expansion
9 capacity project is also subscribed by Piedmont and PSNC, with the associated firm
10 contracts extending through 2032. With only two firm shippers, Cardinal has a
11 highly concentrated shipper base. As such, Cardinal faces a heightened level of
12 counterparty risk when compared to the proxy group entities. If one of the firm
13 shippers on Cardinal was to provide notice of termination or was to default on its
14 contractual obligations, Cardinal would face significant financial strain. This is not
15 the case for the majority of the natural gas pipelines owned by the proxy group
16 entities, suggesting that Cardinal faces relatively higher market risks than the six
17 proxy group entities.

18 Regarding competitive risks, Cardinal faces competition from other natural
19 gas pipelines as well as alternative energy suppliers which influence the probability
20 of continued demand for firm services from Cardinal. Other pipelines situated
21 within reasonable proximity to the markets served by Cardinal include Carolina
22 Gas Transmission, LLC, East Tennessee Natural Gas, LLC ("East Tennessee"),

1 Southern Natural Gas Company, L.L.C. and Columbia Gas Transmission, LLC
2 (“Columbia Gas”). Both East Tennessee and Columbia Gas also directly serve
3 Cardinal’s customers. In addition, Piedmont holds capacity on other interstate
4 natural gas pipelines including Texas Eastern Transmission, LP, Midwestern Gas
5 Transmission Company, and Tennessee Gas Pipeline Company, L.L.C. PSNC is a
6 shipper on Eastern Gas Transmission and Storage, Inc. as well as Cove Point LNG,
7 LP. Thus, I conclude that Cardinal faces a level of competitive risk that is
8 comparable to the proxy group entities.

9 Lastly, as a relatively small, newly constructed pipeline system, Cardinal
10 does not face many of the same level of operating risks as compared to many of the
11 pipelines owned by the proxy group entities, some which were built well over 50
12 years ago and stretch for thousands of miles. Older pipelines generally have
13 relatively higher operating and maintenance costs than newer pipeline facilities,
14 increasing their relative operating risks.

15 **Q.57 How do the business risks faced by Cardinal compare to the risks faced by a**
16 **local distribution company?**

17 A. In general, LDCs face risks that are much lower than natural gas pipelines such as
18 Cardinal. A local distribution company (sometimes also referred to as a gas utility
19 company) typically transports natural gas from interconnects with interstate
20 pipelines to households, light industrial users, and local businesses through small-
21 diameter distribution pipe. LDCs are generally awarded exclusive rights to
22 distribute natural gas within a specified geographic area - thus LDCs have a

1 monopoly service territory. Cardinal has no such dedicated service territory.
2 Further, because of the high per unit cost of constructing small-diameter
3 distribution infrastructure, it is uneconomic to lay multiple redundant distribution
4 networks in any one area, resulting in only one utility offering distribution services.
5 Hence LDCs do not face bypass risk like natural gas pipelines (such as Cardinal)
6 do. In addition, LDCs generally serve hundreds or even thousands of customers,
7 which greatly reduces their counterparty risk. Therefore the loss of one customer
8 is unlikely to place the LDC in financial distress, which again is not the case for
9 Cardinal. Because of these lower levels of overall risks, LDCs typically require a
10 rate of return on equity that is lower than that required for natural gas pipelines.

11 **Q.58 What is your overall recommendation regarding Cardinal's ROE?**

12 A. As discussed above, Cardinal faces some risks that are greater than and some risks
13 that are less than those faced by the proxy group entities. Thus, I conclude that
14 overall Cardinal faces risks that are comparable to the average-risk natural gas
15 pipeline, a level of risk represented by the median of the proxy group. I recommend
16 that Cardinal utilize the median of the DCF analysis as calculated from the core
17 proxy group for ratemaking purposes in this proceeding, namely 11.04%. The use
18 of the ROE from the core proxy group is conservative and will produce just and
19 reasonable rates that strike a proper balance between the needs of Cardinal and its
20 ratepayers.

1 **Q.59 Is this recommended ROE reasonable for ratemaking purposes at this time?**

2 A. Yes. I have utilized both the CAPM model and the expanded proxy group to
3 provide a check on the reasonableness of the recommended 11.04% rate of return
4 on equity for Cardinal. Using the DCF median from the expanded proxy group
5 would increase the calculated ROE to 13.45%, which is nearly 250 basis points
6 higher than the core proxy group. Likewise, the returns calculated utilizing the
7 CAPM model produce a median result of 15.82% for both the core and expanded
8 proxy group.

9 The use of the median result as calculated using only the DCF model as
10 applied to the core proxy group in this proceeding is particularly conservative from
11 the standpoint that investors rely upon multiple models to determine the appropriate
12 required rate of return on equity. Therefore the results of both the DCF model as
13 applied to the expanded proxy group (i.e. a median result of 13.45%), and the
14 median results from the CAPM calculations (15.82% for both proxy groups) fully
15 support that Cardinal's proposed ROE of 11.04% is reasonable at this time and will
16 produce just and reasonable rates.

17 **IX. CAPITAL STRUCTURE AND COST OF DEBT**

18 **Q.60 What is the purpose of this section of your testimony?**

19 A. In this section of my testimony, I discuss and support the appropriate capital
20 structure and cost of debt to be used by Cardinal for rate-making purposes.

1 **Q.61 Please define what you mean by the term “capital structure” within the**
2 **context of regulated natural gas pipeline rate-making.**

3 A. The term “capital structure” refers to the combination of equity and long-term debt
4 used by an entity to finance its rate base. Capital structure, and in particular equity
5 thickness, is often an important factor in cost-of-service ratemaking for natural gas
6 pipelines because it directly impacts the overall rate of return on net rate base.

7 **Q.62 What is the appropriate capital structure that should be used by Cardinal in**
8 **this proceeding?**

9 A. For ratemaking purposes, regulated natural gas pipelines generally utilize (as a
10 starting point) the capital structure reflected on their current balance sheet, as this
11 metric reflects the actual rate base financing that is in place at any given point in
12 time. This is a reasonable approach provided that the pipeline issues its own rated
13 debt and has a capital structure that is within the range of equity ratios of the proxy
14 group companies. When this is not the case, an alternative capital structure should
15 be considered to ensure that just and reasonable rates are determined. An
16 alternative capital structure could include the use of an imputed capital structure or
17 the utilization of the capital structure of the ultimate parent that finances the
18 pipeline entity.

19 **Q.63 What is Cardinal’s current capital structure and how is it financed?**

20 A. In Docket No. G-39, Sub 40, the North Carolina Utilities Commission authorized
21 Cardinal to enter into a long-term debt arrangement, whereunder it was permitted
22 to borrow \$45,000,000 for a 5-year term. This 5-year long-term debt arrangement
23 matures in May 2022, at which point Cardinal will have paid off all of its long-term

1 debt. Therefore as of May 2022, Cardinal will be 100% equity financed by its
2 owners. Further, as Cardinal is owned by multiple parent companies, there is no
3 single parental capital structure that can be used as an alternative that properly
4 reflects an alternative capital structure for Cardinal.

5 In these circumstances, an imputed capital structure is generally used to
6 ensure that just and reasonable rates are determined. Utilizing an imputed capital
7 structure is a relatively common approach for regulated entities that do not issue
8 their own stand-alone debt.¹⁴

9 **Q.64 What imputed capital structure should be used for Cardinal for its cost-of-**
10 **service calculations in this proceeding?**

11 A. In its last rate proceeding filed in Docket No. G-39, Sub 38, Cardinal's filed cost
12 of service reflected its actual capital structure at the time, as adjusted to reflect the
13 proposed refinancing of its \$45 million of long-term debt.¹⁵ As such, the capital
14 structure utilized by Cardinal in its last rate filing was comprised of 59.23% equity
15 and 40.77% long-term debt. Given that Cardinal will no longer have any long-term
16 debt going forward, I would recommend the continued use of its last filed capital
17 structure for rate making purposes in this proceeding, which I have rounded to 60%
18 equity and 40% debt.

¹⁴ For example, the North Carolina Utilities Commission has authorized the use of a hypothetical capital structure in Docket No. E-35, Sub 45. The FERC has also authorized the use of a hypothetical capital structure for some interstate natural gas pipelines. See *Transcontinental Gas Pipeline Corp.*, Opinion No. 414, 80 FERC ¶ 61,157 (1997) ("Opinion No. 414").

¹⁵ As previously discussed, in Docket No. G-39, Sub 40, the North Carolina Utilities Commission authorized Cardinal to enter into a long-term debt arrangement, whereunder it was permitted to borrow \$45,000,000 for a 5-year term.

1 As shown in my Exhibit DH-005, this hypothetical capital structure is
2 within the range of the actual current capital structure ratios of the core and
3 expanded proxy groups.

4 Utilizing Cardinal's historical 60/40 equity to debt capital structure in this
5 proceeding is reasonable, in light of the small size and relative risks of Cardinal as
6 compared to the proxy group entities.

7 **Q.65 What cost of debt should Cardinal utilize for its cost-of-service purposes in**
8 **this proceeding?**

9 A. For its cost of debt for in this proceeding, I recommend that Cardinal utilize the
10 average cost of debt across the core proxy group entities, namely 5.25%, as
11 reflected in Exhibit No. DH-005. Using the average cost of debt from the core
12 proxy group is appropriate in light of the fact that Cardinal does not issue any stand-
13 alone debt and is using an imputed capital structure, as it is uncertain whether a
14 lender would provide any substantive long-term financing for Cardinal at interest
15 rates that are comparable to those enjoyed by the larger and more diversified proxy
16 group entities.

17 **Q.66 Does this conclude your Prepared Direct Testimony?**

18 A. Yes, it does.

**BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. G-39, SUBS 46 and 47**

EXHIBIT NO. DH-006

**PREPARED REBUTTAL TESTIMONY OF
DAVID J. HAAG
ON BEHALF OF
CARDINAL PIPELINE COMPANY, LLC**

June 27, 2022

OFFICIAL COPY

Jul 14 2022

**PREPARED REBUTTAL TESTIMONY OF
DAVID J. HAAG
ON BEHALF OF
CARDINAL PIPELINE COMPANY, LLC**

1 **Q.1 Please state your name and employer.**

2 A. My name is David J. Haag. I am President and Chief Executive Officer of Brown,
3 Williams, Moorhead & Quinn, Inc. (“BWMQ”), a nationally recognized energy
4 consulting firm based in the Washington, D.C. area.

5 **Q.2 Did you previously file testimony in this proceeding?**

6 A. Yes. I filed prepared direct testimony (Exhibit No. DH-001) along with four
7 supporting exhibits (Exhibit Nos. DH-002 through DH-005) on behalf of Cardinal
8 Pipeline Company, LLC (“Cardinal”) in this proceeding on March 15, 2022.

9 **Q.3 Please provide a brief overview of the purpose and scope of your rebuttal**
10 **testimony.**

11 A. I am herewith providing rebuttal testimony on behalf of Cardinal. The purpose of
12 this rebuttal testimony is to respectfully respond to several of the points contained
13 in the testimony of Mr. John R. Hinton, who submitted testimony on June 10, 2022
14 in this proceeding on behalf of the Public Staff of the North Carolina Utilities
15 Commission. Mr. Hinton’s testimony is focused on the overall cost of capital that
16 should be utilized for establishing rates for Cardinal in this proceeding.

1 **Q.4 Please summarize Mr. Hinton’s recommendations regarding the cost of capital**
2 **for Cardinal.**

3 A. Mr. Hinton recommends that, for rate making purposes, Cardinal utilize a cost of
4 debt of 4.06% and a rate of return on equity (“ROE”) of 9.48%, both applied to a
5 hypothetical capital structure comprised of 48.04% long term debt and 51.96%
6 common equity, resulting in an overall weighted cost of capital of 6.88%.

7 These amounts are referred to as hypothetical because as of May 2022,
8 Cardinal is 100% equity financed by its owners. In these circumstances, an imputed
9 (or hypothetical) capital structure and cost of debt is generally used to ensure that
10 just and reasonable rates are determined.

11 However, as discussed in detail below, Mr. Hinton’s recommendations
12 result in an overall weighted average cost of capital for Cardinal that is both too
13 low and not reflective of the underlying risks of the pipeline, particularly in light of
14 current financial market conditions.

15 **Q.5 How has Mr. Hinton calculated his recommended cost of capital for Cardinal?**

16 A. With regards to the cost of debt, Mr. Hinton recommends that Cardinal’s
17 hypothetical cost of debt be determined by adding a 135-basis point yield spread to
18 the current five-year treasury yield, which as of May 27, 2022 was 2.71%, yielding
19 a cost of debt of 4.06%. Mr. Hinton explains that this approach incorporates the
20 effective yield spread in effect at the time Cardinal entered into its most recent
21 tranche of approved long-term debt in May 2017.

1 Mr. Hinton has determined his recommended 9.48% cost of equity for
2 Cardinal by averaging his 9.64% Risk Premium estimate with his average
3 discounted cash flow (“DCF”) model estimate of 9.33%, as shown in Hinton
4 Exhibit 8. Mr. Hinton then undertakes a Comparable Earnings analysis as a
5 reasonableness check on the results of his DCF and Risk Premium estimates and
6 concludes that the recommended 9.48% cost of equity is reasonable.

7 Finally, Mr. Hinton recommends a hypothetical capital structure comprised
8 of 48.04% long term debt and 51.96% common equity, based on the average
9 capitalization ratios for local natural gas distribution companies reported by
10 Regulatory Research Associates in 2020, 2021, and the first quarter of 2022, as
11 shown in Hinton Exhibit 2.

12 **Q.6 Does Mr. Hinton discuss current financial market conditions?**

13 A. Yes. For example, Mr. Hinton discusses the recent resurgence of inflation and
14 related increases in interest rates, including recent increases in U.S. Treasury bond
15 yields and long-term “A” rated utility bonds.¹

16 **Q.7 Does increased inflation impact the cost of capital required by a regulated**
17 **pipeline entity?**

18 A. Yes. In general, investors require higher returns from equity investments than from
19 investments in corporate bonds or debt. This is because equity investments have
20 higher risks than debt investments and are also more volatile than debt

¹ For example, see Pages 3 -5 of Mr. Hinton’s prepared testimony.

1 investments.² To maintain this parity in the financial markets, the ROEs for
2 pipelines are therefore also expected to rise as interest rates rise due to increasing
3 inflation.

4 This is important because in *State ex rel. Utils. Comm'n v. Cooper*, 366 N.C.
5 484, 739 S.E.2d 541 (2013), the Court held that the Commission must consider
6 changing economic conditions and the impact of those changes when approving a
7 return on equity.

8 **Q.8 Are the franchise areas served by Cardinal's Local Distribution Company**
9 **customers currently facing adverse economic conditions that the Commission**
10 **should be aware of?**

11 A. Not to my knowledge. As testified by Mr. Hinton, the United States Bureau of
12 Economic Analysis data for the service areas of Piedmont Natural Gas Company,
13 Inc. ("Piedmont") and Public Service Company of North Carolina, Inc. ("PSNC")
14 indicate that from 2017 to 2020, per capita total personal income grew at an average
15 annual growth rate of 4.3%. Overall per capita income for North Carolina increased
16 7.9% in 2021. In addition, the United States Bureau of Labor Statistics reports that
17 North Carolina's unemployment rate fell to just 3.4% in April 2022.

18 These macroeconomic indicators suggest that there are currently no adverse
19 economic conditions that would arguably require a downward adjustment to
20 Cardinal's approved rate of return on equity.

² For a general discussion on debt and equity investments see: <https://finance.zacks.com/differences-between-debt-equity-investments-3035.html>

1 **Q.9 Is 4.06% an appropriate hypothetical cost of debt for Cardinal at this time?**

2 A. No. The hypothetical debt cost is intended to be a proxy for the cost of debt that
3 Cardinal would actually incur if were to enter into a new long-term debt
4 arrangement today. As discussed below, Mr. Hinton's hypothetical debt cost of
5 4.06% is therefore too low. In his direct testimony, Mr. Hinton calculates
6 Cardinal's recommended cost of debt by adding a 135-basis point yield spread to
7 the current five-year treasury yield, which as of May 27, 2022 was 2.71%, yielding
8 the recommended cost of debt of 4.06%. Mr. Hinton explains that this approach
9 incorporates the effective yield spread in effect at the time Cardinal entered into its
10 most recent tranche of approved long-term debt in May 2017.

11 As of June 14, 2022, the five-year treasury yield has increased to 3.61%,
12 with this rate expected to continue to rise in the short-term.³ Thus, even if Cardinal
13 were to utilize Mr. Hinton's recommended methodology to determine its
14 hypothetical cost of debt (i.e. for the sake of argument), the appropriate cost of debt
15 as of June 14, 2022 would be 4.96%.

16 Furthermore, consider that in 1998, prior to Cardinal's more recent long-
17 term debt agreement which matured in May 2022, Cardinal issued \$48,000,000 in
18 Senior Secured Notes with an interest rate of 7.30%, with the term of those notes
19 being 10-years. The average ten-year treasury yield for 1998 was 5.15%⁴, and
20 therefore Cardinal's cost of debt was 215-basis points higher than the comparable

³ For example, see: <https://www.depositaccounts.com/blog/fed-deposit-interest-rate-predictions/>

⁴ See: <https://www.macrotrends.net/2522/10-year-treasury-bond-rate-yield-chart>

1 average ten-year treasury yield at the time, further supporting that Mr. Hinton's
2 proposed 135-basis point adder is insufficient, particularly under current market
3 conditions.

4 The average five-year treasury rate has risen every month for the past 12
5 months, and entering into a new long-term debt arrangement today is certainly not
6 an instantaneous process. Therefore it is highly unlikely that Cardinal would be
7 able to secure long-term debt at Mr. Hinton's recommended rate of 4.06%,
8 especially given the current rising interest rate environment.

9 Accordingly, I continue to recommend that Cardinal utilize the average
10 actual cost of debt observed across the core proxy group entities that I have
11 recommended in my direct testimony, namely 5.25%, as reflected in my Exhibit
12 No. DH-005. This hypothetical cost of debt is based not on current rising interest
13 rates but rather on the actual reported debt costs as of December 2021 of the much
14 larger and more diversified core proxy group entities (making this a conservative
15 estimate). Using the actual average cost of debt from the core proxy group is
16 appropriate in light of the fact that Cardinal does not currently have any stand-alone
17 debt and will therefore be using an imputed capital structure.

18 **Q.10 Is 9.48% an appropriate rate of return on equity for Cardinal at this time?**

19 A. No. For the reasons I discuss below, amongst others, Mr. Hinton's recommended
20 9.48% rate of return on equity is also too low for Cardinal at this time. As testified
21 by Mr. Hinton, if the return is set too low, then "the stockholders will suffer because

1 a declining value of the underlying property will be reflected in a declining value
2 of the utility's equity shares".⁵

3 However, in spite of this, Mr. Hinton's recommended rate of return on
4 equity for Cardinal is nevertheless even lower than the recently approved ROEs for
5 the two local distribution companies ("LDCs") served by Cardinal. Both Piedmont
6 and PSNC have current authorized rates of return on equity of 9.60%, which is
7 twelve basis points higher than the rate proposed for Cardinal.⁶

8 **Q.11 Why is Mr. Hinton's recommended rate of return on equity so low?**

9 A. From a mathematical perspective, both Mr. Hinton and I have calculated our
10 recommended rates of return on equity primarily through the use of a DCF model,
11 albeit with a number of differences in the way we have structured and utilized the
12 model. However, the DCF calculations are based on materially different proxy
13 groups. Mr. Hinton has used a group of nine companies classified by Value Line
14 as "Natural Gas Distribution Utilities" whereas the proxy group that I have utilized
15 is comprised of entities that have material interests in interstate natural gas
16 pipelines, and are classified by Value Line as "Oil/Gas Distribution" companies. I
17 note that Cardinal is not actually a natural gas distribution utility, but is rather an
18 intrastate natural gas pipeline.

⁵ See Page 8, Line 22 through Page 9, Line 3 of Mr. Hinton's direct testimony.

⁶ See <https://publicstaff.nc.gov/public-staff-divisions/economic-research-division/approved-rate-return>

1 **Q.12 How did you establish your proxy group for Cardinal?**

2 A. My proxy group is comprised of a number of publicly traded entities that own
3 material levels of regulated interstate natural gas pipelines in addition to owning
4 intrastate pipeline assets. I have established a proxy group using interstate natural
5 gas pipelines as at this time there are no stand-alone publicly traded intrastate
6 pipeline companies that can be directly used to form a comparable proxy group for
7 Cardinal. Many of the companies that own intrastate pipelines are also heavily
8 involved in other upstream activities including: exploration and production, gas
9 gathering and processing, as well as various gas treatment processes.

10 To ensure that the proxy group companies I have selected exhibit risks that
11 are comparable to Cardinal, my prepared direct testimony discusses the overall
12 risks of each of the proxy group entities as compared to Cardinal.

13 **Q.13 How has Mr. Hinton established his proxy group?**

14 A. Mr. Hinton states on Page 24 of his testimony that he identified a subset of nine
15 companies from the list of natural gas distribution utility companies identified by
16 Value Line. These nine entities are listed in Hinton Exhibit 4. However Mr. Hinton
17 does not explain with any specificity why these nine entities are of comparable risk
18 to Cardinal, nor does he provide any detailed risk analysis that compares the risks
19 faced by Cardinal with each of these nine companies.

20 Further, although Mr. Hinton utilized a nine-member proxy group from the
21 Value Line natural gas distribution utility companies, there are currently fourteen
22 entities identified by Value Line in this category. While it is questionable why

1 some of these fourteen entities are classified by Value Line as natural gas utility
2 companies, Mr. Hinton nevertheless does not explain why he excluded some of
3 these entities. For example, two entities that were excluded include Corning
4 Natural Gas Holding Company and RGC Resources, Inc.

5 Corning Natural Gas Holding Company has three utility subsidiaries.
6 Corning Natural Gas is a local distribution company with approximately 15,000
7 natural gas customers. Gas deliveries are made throughout the Southern Tier and
8 central regions of New York State. Pike County Light & Power is a combination
9 gas and electric utility serving approximately 6,000 customers in Pike County, PA.
10 Leatherstocking Gas is a gas utility serving approximately 300 customers in the
11 counties of Susquehanna and Bradford, PA.

12 RGC Resources Inc. is a public utility holding company providing energy
13 and related products and services through its operating subsidiaries Roanoke Gas
14 Company and RGC Midstream, LLC. Roanoke Gas provides natural gas service
15 to more than 60,000 customers in the greater Roanoke Valley of Virginia. RGC
16 Midstream owns a 1 percent interest in the Mountain Valley Pipeline project.

17 Even if it were to be determined that LDC's should be included in the proxy
18 group for Cardinal, more details are still required to determine the risk
19 comparability of each of these specific entities, and their levels of risk relative to
20 Cardinal, prior to utilizing any of these fourteen entities to estimate the proper rate
21 of return on equity for Cardinal.

1 **Q.14 Is a proxy group composed solely of Natural Gas Distribution utilities more**
2 **comparable to Cardinal in terms of overall risk than a proxy group of**
3 **interstate natural gas pipeline companies?**

4 A. No. Although Mr. Hinton maintains that the investment risk profile of Cardinal is
5 more akin to a local distribution company than to an interstate pipeline company,
6 there are a number of reasons why Cardinal, as an intrastate natural gas pipeline,
7 has risks that are greater than an LDC, rendering it more closely comparable to an
8 interstate natural gas pipeline. In my direct testimony, I have discussed the
9 significant reasons supporting the conclusion that Cardinal's risks are not
10 comparable to those of an LDC, including the fact that unlike LDCs, Cardinal does
11 not have a dedicated service territory.

12 In addition to the multiple reasons discussed in my direct testimony, LDC
13 distribution lines are typically operated at much lower pressures than Cardinal's
14 transmission lines. Cardinal's transmission lines are subject to a Maximum
15 Allowed Operating Pressure of 1,000 psig, which is comparable to many large
16 interstate natural gas pipelines. In comparison, at LDC gate stations, pressure is
17 reduced to between 0.25 and 200 psig which is a significant difference from the
18 operations of Cardinal. Higher operating pressures present greater operating risks.

19 LDCs are also not subject to the same Pipeline and Hazardous Materials
20 Safety Administration pipeline integrity requirements as Cardinal. Gas
21 transmission pipeline integrity management programs are governed by 49 CFR Part
22 192, Subpart O. Distribution pipeline integrity management programs are governed
23 by 49 CFR Part 192, Subpart P, another significant difference.

1 The State of North Carolina also offers certain incentive programs
2 exclusively to local distribution companies. For example, in North Carolina, LDCs
3 can recover even the economically infeasible portion of a line extension through its
4 rates for line extensions, provided that they invest at least \$200 million in
5 improvements and employ at least 1,500 employees. Provided the project is
6 approved, the economically infeasible costs of the infrastructure are permitted to
7 be recovered in a rate rider.⁷ I am not aware of any such incentive program being
8 available to Cardinal or to an interstate natural gas pipeline in North Carolina.

9 LDCs typically require a rate of return on equity that is lower than that
10 required for natural gas pipelines, as LDC's face risks that are generally lower than
11 natural gas pipelines. However, the risks faced by Cardinal are clearly greater than
12 those faced by an average LDC, and as such, a proxy group of interstate natural gas
13 pipeline entities, as I have complied in my direct testimony, provides for a more
14 risk appropriate proxy group to determine a just and reasonable rate of return on
15 equity for Cardinal at this time.

16 **Q.15 Do you have any concerns with the use of a Comparable Earnings analysis for**
17 **a regulated pipeline entity?**

18 A. Yes. Although Mr. Hinton does not rely directly on the results of his Comparable
19 Earnings Analysis, there are a number of fundamental concerns with utilizing a
20 Comparable Earnings Analysis for a regulated pipeline entity such as Cardinal.

⁷ <https://edpnc.com/incentives/natural-gas-infrastructure/>

1 As a starting point, the Comparable Earnings Analysis is a method of
2 calculating the earnings that an investor expects to receive on the book value of a
3 particular stock by examining actual past earned returns. However, a regulated
4 pipeline (and in particular an LDC), is generally expected to earn its allowed ROE,
5 on average. Thus, by definition, a review of past accounting returns would be
6 expected to show that the allowed ROE was achieved, at least on average. As such,
7 setting a pipelines rate of return on equity based upon its realized accounting returns
8 becomes circular in that the return becomes a “self-fulfilling prophecy” regardless
9 of changes in operating, market, or industry conditions. Changes in macro-
10 economic industry risks are not captured in a Comparable Earnings Analysis, as the
11 model relies on historical realized returns.

12 **Q.16 Is Mr. Hinton’s recommended hypothetical capital structure appropriate for**
13 **Cardinal at this time?**

14 A. No. Mr. Hinton has recommended a hypothetical capital structure comprised of
15 48.04% long term debt and 51.96% common equity, reflecting the average
16 capitalization ratios for local natural gas distribution companies as reported by
17 Regulatory Research Associates in 2020, 2021, and the first quarter of 2022, as
18 shown in Hinton Exhibit 2.

19 It is important to understand that there is a relatively large variance
20 contained in the data set of common equity ratios shown in Hinton Exhibit 2, which
21 has a minimum value of 46.26% and a maximum value of 60.12%. The standard

1 deviation of the data set is 3.04284, which tells us that the maximum observation
2 is nearly three standard deviations away from the mean value of 51.96%.⁸

3 The fact that the data set contains such a significant dispersion tells us that,
4 among LDCs there are material differences in the capital structures approved by
5 the various State Commissions, clearly reflecting different underlying levels of
6 relative risk for the various LDC entities. Thus, if the North Carolina Utilities
7 Commission were to utilize Mr. Hinton's approach of assigning Cardinal a
8 hypothetical capital structure based on the approved capital structures of the various
9 LDC entities reflected in Hinton Exhibit 2, it would be necessary to first determine
10 the relative risks of Cardinal as compared to each of the LDCs contained in the list,
11 to ensure that the recommended hypothetical capital structure for Cardinal produces
12 an overall weighted average cost of capital that is just and reasonable given
13 Cardinals unique risks that I have discussed above and in my direct testimony.

14 In light of the fact that Cardinal will now be financed entirely by equity
15 from its corporate parents, I have recommended that Cardinal utilize an imputed
16 capital structure of 60% equity and 40% debt for rate-making purposes at this time.
17 This capital structure is consistent with Cardinal's last rate filing, which was
18 comprised of 59.23% equity and 40.77% long-term debt, which I have rounded to
19 60% equity and 40% debt.

⁸ A standard deviation is a measure of how dispersed the data is in relation to the average. In a normal distribution, approximately 68% of all values are within one standard deviation of the average, 95% of all values are within two standard deviations of the average, and 99.7% of values are within three standard deviations of the average.

1 A 60% equity ratio would also correctly place Cardinal near the top of the
2 range of the LDC entities contained in Hinton Exhibit 2. Given that the Cardinal
3 system has risks that are greater than that of an average LDC entity, the data
4 contained in Hinton Exhibit 2 also supports that my recommendation is reasonable.

5 **Q.17 Please summarize your findings and recommendations.**

6 A. After a careful review, there is nothing in Mr. Hinton's testimony that would cause
7 me to conclude that the overall cost of capital recommendations contained in my
8 prepared direct testimony require any downward adjustments at this time,
9 particularly in light of the current macro-economic environment of increasing
10 inflation.

11 Therefore, I continue to recommend that Cardinal should reflect an after-
12 tax ROE of 11.04% and a cost of debt of 5.25% for its cost of capital in this
13 proceeding. This recommended ROE is appropriate for Cardinal at this time given
14 the relative level of risks that Cardinal faces as compared to the much larger and
15 more diversified core proxy group entities.

16 My recommended hypothetical debt cost of 5.25% reflects the average
17 actual cost of debt of the entities included in the core proxy group as of December
18 2021.

19 With regards to an appropriate capital structure, given that Cardinal will not
20 be issuing any stand-alone replacement debt and instead will be financed entirely
21 by equity from its corporate parents, I recommend that Cardinal continue to utilize

1 an imputed capital structure of 60% equity and 40% debt for rate-making purposes

2 at this time, as this is consistent with Cardinal's relative level of risks.

3 **Q.18 Does this conclude your prepared Rebuttal Testimony?**

4 A. Yes, it does.

**BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. G-39, SUBS 46 and 47**

**SETTLEMENT TESTIMONY OF
DAVID J. HAAG
ON BEHALF OF
CARDINAL PIPELINE COMPANY, LLC**

July 5, 2022

OFFICIAL COPY

Jul 04 2022

**SETTLEMENT TESTIMONY OF
DAVID J. HAAG
ON BEHALF OF
CARDINAL PIPELINE COMPANY, LLC**

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Jul 04 2022

1 **Q.1 Please state your name and employer.**

2 A. My name is David J. Haag. I am President and Chief Executive Officer of Brown,
3 Williams, Moorhead & Quinn, Inc., a nationally recognized energy consulting firm
4 based in the Washington, D.C. area.

5 **Q.2 Did you previously file testimony in this proceeding?**

6 A. Yes. I filed prepared direct testimony (Exhibit No. DH-001) along with four
7 supporting exhibits (Exhibit Nos. DH-002 through DH-005) and prepared rebuttal
8 testimony (Exhibit No. DH-006) on behalf of Cardinal Pipeline Company, LLC
9 ("Cardinal") in this proceeding. In my direct and rebuttal testimonies, I
10 recommended that Cardinal should reflect an after-tax rate of return on equity
11 ("ROE") of 11.04%, based on a calculated range of 8.15% to 15.13%, and a cost of
12 debt of 5.25% for its cost of capital in this proceeding. With regards to an
13 appropriate capital structure, given that Cardinal will be financed entirely by equity
14 from its corporate parents, I recommended that Cardinal utilize an imputed capital
15 structure of 60% equity and 40% debt for rate-making purposes.

16 **Q.3 What is the purpose of your settlement testimony?**

17 A. I am herewith providing settlement testimony on behalf of Cardinal. The purpose
18 of this settlement testimony is to explain my support for the Settlement Agreement
19 and Stipulation ("Stipulation") filed in this proceeding on July 5, 2022 by Cardinal,
20 the Public Staff - North Carolina Utilities Commission ("Public Staff), and
21 Piedmont Natural Gas Company, Inc. (collectively, "Stipulating Parties"). My

1 testimony addresses the agreed-upon ROE, capital structure, and cost of debt set
2 forth in the Stipulation.

3 **Q.4 Do you support Cardinal's decision to agree to the stipulated ROE,**
4 **hypothetical capital structure, and imputed cost of debt set forth in the**
5 **Stipulation?**

6 A. Yes, I do. I recognize that the Stipulation represents the outcome of negotiations
7 among the Stipulating Parties regarding many otherwise contested issues. I
8 understand that Cardinal has determined that the terms of the Stipulation, including
9 the agreed-to ROE, hypothetical capital structure, and imputed cost of debt
10 represent a reasonable resolution of the issues in this proceeding and strikes a fair
11 balance between the interests of the various Stipulating Parties. I understand and
12 respect that determination.

13 Further, entering into this Stipulation eliminates the need for any further
14 testimony, discovery, hearing and briefing of the matters resolved. The avoidance
15 of litigation and resultant better use of resources of participants, including the
16 Commission, is a valuable outcome, benefiting the participants, the Commission
17 and the public interest.

18 **Q.5 Are you familiar with the terms of the Stipulation as it relates to Cardinal's**
19 **overall cost of capital?**

20 A. Yes. I understand that the Stipulating Parties have agreed to an ROE of 9.55%, a
21 hypothetical capital structure comprised of 48.04% long term debt and 51.96%
22 common equity, and an imputed cost of debt of 4.96%.

1 **Q.6 What is your position regarding the agreed-upon ROE set forth in the**
2 **Stipulation?**

3 A. Although the agreed-upon ROE set forth in the Stipulation is at the lower end of
4 my recommended range, it is nevertheless within the range of the analytical results
5 that I presented and supported in my direct and rebuttal testimony. As discussed in
6 my direct and rebuttal testimonies, from a mathematical perspective, both Public
7 Staff witness Mr. Hinton and I have calculated our recommended rates of return on
8 equity primarily through the use of a discounted cash flow model, albeit with a
9 number of differences in the way we have structured and utilized the model.
10 Therefore, it remains my position that in a fully litigated proceeding, an ROE at the
11 median of my calculated range of returns of 8.15% to 15.13%, i.e., 11.04%, is
12 reasonable. Nonetheless, I recognize the benefits associated with the decision to
13 enter into the Stipulation and as such, it is my view that the 9.55% agreed-upon
14 ROE is a reasonable resolution of this otherwise contentious issue.

15 **Q.7 What is your position regarding the agreed-upon hypothetical capital**
16 **structure and imputed 4.96% debt cost set forth in the Stipulation?**

17 A. As I discuss in my direct and rebuttal testimonies, Cardinal is 100% equity financed
18 by its owners, and no longer has any long-term debt. Under these circumstances,
19 an imputed capital structure and debt cost is appropriate for use in determining just
20 and reasonable rates. There are a number of different approaches to developing
21 those factors. Therefore, it remains my position that in a fully litigated proceeding,
22 my recommended hypothetical capital structure of 60% equity and 40% debt, based
23 on Cardinal's filed actual capital structure in its last rate case, and recommended

1 imputed debt cost of 5.25%, based on the average of the debt cost of the core proxy
2 group entities I used to determine my recommended ROE, is reasonable. However,
3 the agreed-upon hypothetical capital structure of 51.96% equity and 48.04% debt
4 and imputed 4.96% debt cost set forth in the Stipulation is within the range of the
5 actual capital structures and debt costs of the core and expanded proxy groups I
6 used to determine my recommended ROE. I recognize the benefits associated with
7 the decision to enter into the Stipulation and as such, it is my view that the agreed-
8 upon hypothetical capital structure of 51.96% equity and 48.04% debt set forth in
9 the Stipulation is a reasonable resolution of these otherwise contentious issues.
10 Similarly, the agreed upon 4.96% cost of debt is a reasonable compromise between
11 the cost of debt that I have calculated using the core proxy group of 5.25% and the
12 cost of debt advocated by Mr. Hinton of 4.06%.

13 **Q.8 Does this conclude your Settlement Testimony?**

14 A. Yes, it does.

Exhibit ____ (CPC-0001)

BEFORE THE

NORTH CAROLINA UTILITIES COMMISSION

Docket No. G-39, SUB 47

DIRECT TESTIMONY
OF
STEVEN FALL

ON BEHALF OF

CARDINAL PIPELINE COMPANY, LLC

March 15, 2022

OFFICIAL COPY

MAR 15 2022

**BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION**

Cardinal Pipeline Company, LLC

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Docket No. G-39, Sub 47

**PREPARED DIRECT TESTIMONY OF
STEVEN R. FALL ON BEHALF OF
CARDINAL PIPELINE COMPANY, LLC**

March 15, 2022

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MAR 15 2022

1

GLOSSARY OF TERMS

ACC	Anchor Construction Corporation
BWMQ	Brown, Williams, Moorhead & Quinn, Inc.
CCI	City Cost Index Adjustment Factor
CM	Construction Management
NCUC	North Carolina Utilities Commission
Commission	North Carolina Utilities Commission
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
Cardinal	Cardinal Pipeline Company, LLC
FEMA	Federal Emergency Management Agency
GSA	General Services Administration
Interim Retirement	The replacement of facilities required to maintain the system during the system's useful life.
M&R	Measuring and Regulating
MTO	Material Take Off. MTO refers to a list of materials with quantities (such as building volume) and types (such as specific grades of steel) that are required to build a designed structure or item.
O&P	Overhead and Profit
ROW	Right-of-way
TDC	Terminal Decommissioning Cost
Terminal Decommissioning	The dismantlement and removal of the entire network at the end of its useful life.
USACE	U.S. Army Corps of Engineers
WSSC	Washington Suburban Sanitary Commission

**BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION**

Cardinal Pipeline Company, LLC)
) **Docket No. G-39, Sub 47**
)

Prepared Direct Testimony of Steven R. Fall



I. INTRODUCTION

1
2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Steven R. Fall. I am a Vice President employed with the firm of Brown,
4 Williams, Moorhead & Quinn, Inc. ("BWMQ"), an energy consulting firm
5 providing thorough analytical expertise and litigation support on behalf of clients
6 across a wide range of energy issues.

7 **Q. What is the nature of the work performed by your firm?**

8 A. We offer technical, economic and policy assistance to the various segments of the
9 natural gas pipeline industry, oil pipeline industry and electric utility industry on
10 business and regulatory matters.

11 **Q. On whose behalf are you submitting this testimony?**

1 A. I am submitting this testimony on behalf of Cardinal Pipeline Company, LLC
2 (“Cardinal”).

3 **Q. Briefly describe the purpose of your testimony in this proceeding.**

4 A. The purpose of my testimony is to present my recommendation regarding the
5 proper and adequate depreciation rates for Cardinal based on appropriate remaining
6 life factors applicable to the Cardinal natural gas pipeline system and an economic
7 life. I am also recommending appropriate recovery rates for costs associated with
8 annual plant retirements between now and the 2050 truncation date. In addition, I
9 am recommending recovery rates for the costs associated with the terminal
10 decommissioning, removal, and rehabilitation of the pipeline right of way upon the
11 final abandonment of the pipeline system based on the Terminal Decommissioning
12 Study performed, as submitted to the North Carolina Utilities Commission
13 (“Commission” or “NCUC”) on October 26, 2021 in Docket No. G-39, Sub 46.

14 **Q. Please briefly state your professional experience and qualifications.**

15 A. Before joining BWMQ, I was a Project Manager at the Washington D.C.
16 Department of Consumer and Regulatory Affairs, where I handled regulatory
17 compliance for high-impact projects. I coordinated between council members,
18 property owners, private contractors, and city construction inspectors to bring on-
19 going construction projects into compliance with building regulations and codes.
20 Before that, from 2014 to 2017, I was Project Engineer for Anchor Construction
21 Corporation (“ACC”) of Washington, D.C., which specializes in major
22 underground utility construction projects.

1 Since joining BWMQ in 2017, I have been integral in developing terminal
2 decommissioning and depreciation studies before the Federal Energy Regulatory
3 Commission (“FERC”).

4 **Q. Have you previously provided testimony before the North Carolina Utilities**
5 **Commission?**

6 A. I have not provided testimony before the NCUC. However, I prepared a
7 depreciation rate study and terminal decommissioning study (“Depreciation Study”)
8 for Cardinal, which was submitted pursuant to NCUC Rule R6-80 on October 26,
9 2021, in Docket No. G-39, Sub 46. The Depreciation Study is attached as Exhibit
10 No. CPC-0007. In addition, please refer to Exhibit No. CPC-0002 for a more
11 comprehensive list of testimony before the FERC.

12 **Q. Please identify the exhibits and schedules you are sponsoring in this**
13 **proceeding.**

14 A. In addition to my testimony, I am sponsoring the following exhibits in this
15 proceeding:

- 16 • Exhibit No. CPC-0002: Curriculum Vitae of Steven R. Fall
- 17 • Exhibit No. CPC-0003: Depreciation Workpapers
- 18 • Exhibit No. CPC-0004: Transmission Survivor Curves
- 19 • Exhibit No. CPC-0005: TDC Workpapers;
- 20 • Exhibit No. CPC-0006: TDC Supporting Documents.
- 21 • Exhibit No. CPC-0007: Depreciation Study

22 I will discuss and explain these exhibits in my testimony.

23 **Q. Were your testimony and exhibits prepared by you or under your supervision?**

1 A. Yes.

2 **Q. Please provide an overview of how your depreciation study estimate is**
3 **organized.**

4 A. My testimony is organized as follows:

- 5 • In Section II of my testimony, I describe the Cardinal Pipeline Company
6 System Operations.
- 7 • In Section III, I describe depreciation theory, methodology, and economic
8 life rationale.
- 9 • In Section IV, I describe terminal decommissioning calculations.
- 10 • In Section V, I conclude with depreciation rate recommendations.



II. CARDINAL SYSTEM OPERATIONS

Q. Please provide a brief description of Cardinals' transmission system.

A. Cardinal is an intrastate natural gas pipeline consisting of 104 miles of 24-inch diameter pipeline extending from Transcontinental Gas Pipe Line Company, LLC's Compressor Station 160 in Rockingham County, North Carolina to the Raleigh, North Carolina area. The Cardinal pipeline system consists of (1) the original 24-inch diameter, 37-mile Cardinal Pipeline, which originates in Rockingham County, North Carolina and extends to the southeast of Burlington, North Carolina to provide 134,550 dekatherms ("Dth") per day of firm natural gas transportation capacity, (2) the 24-inch diameter Cardinal Extension, which was placed into service on November 1, 1999, and extends approximately 67-miles from Burlington, North Carolina to the area of Raleigh, North Carolina adding 144,900 Dth per day of firm natural gas transportation capacity, and (3) the 2012 Expansion Project, which was placed into service on June 1, 2012, adding 199,000 Dth per day of firm natural gas transportation capacity through the installation of a 14,205

- 1 horsepower greenfield compressor station in Guilford County, North Carolina, and
- 2 upgrades at certain existing measuring and regulating stations.



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1 services. The recovery of the capital costs must occur within the economic lifespan
2 of the asset. The tools used in depreciation analysis are the foundation for allocating
3 capital costs over the useful life of a depreciable asset in order to provide investors
4 the opportunity to recoup their investment in a reasonable and consistent manner
5 during the expected service life of the asset.

6 Oil and gas pipeline systems are built to safely transport hydrocarbons for many
7 years. Properly maintained, all pipeline assets have very long-life expectancies.
8 However, what goes into the ground as a state-of-the-art industrial asset will, one
9 day, run up against various factors that will cause the asset to be retired. First,
10 simple usage takes its toll on any asset. Under normal usage, every asset has a
11 range of service life expectancy that will define its maximum depreciable life. But
12 various factors can shorten that expectation, such as extreme weather-related
13 damage, third-party damage, or governmental regulations. These often bring an
14 immediate end to the facilities' useful life. Other factors can shorten a life
15 expectation not because the asset itself fails but because changes in technology,
16 methodology, or regulations render the asset obsolete. Improvements in safety,
17 efficiency, or usefulness can lead to the retirement/replacement of assets that might
18 otherwise have remained in service for many years. Depreciation theory allows for
19 the truncation of the useful life of facilities based on these considerations.

20 **Q. Are there any other factors that may influence the useful life of an asset?**

21 A. "Loss in service value" is the diminishment of the ability of an asset to provide
22 useful service to the utility. Loss in service value occurs broadly from two sources:
23 first, physical causes (e.g., wear and tear, decay, and action of the elements), and,

1 second, economic causes (e.g., inadequacy, technological or economic
2 obsolescence, changes in the art, changes in demand, requirements of public
3 authorities, and the exhaustion of natural resources).

4 **B. Depreciation Methodology**

5 **Q. Please explain your depreciation methodology.**

6 A. This study uses the broad group, straight line, average remaining life method of
7 depreciation for Cardinal's transmission function and whole life method for general
8 plant. Under this method, all of the assets within a group are considered to be
9 homogeneous units of plant used and treated alike across the system regardless of
10 the vintage, construction techniques, or retirement rate. In practice, there are two
11 levels of grouping – by account and by function. For natural gas pipelines
12 generally, the accounts are combined into a larger functional group, such as storage
13 or transmission, with one depreciation rate for the whole function.

14 The depreciable lives of a pipeline entity's assets are bound by three life expectancy
15 estimates: 1) the average physical service life expectancy of the various classes of
16 property; 2) the estimated remaining life of the resource base supporting the need
17 for the assets; and 3) the estimated remaining economic life of the demand for
18 services provided by the capital assets. These three factors set the stage for
19 calculating the average remaining depreciable life, which also takes into account
20 the truncation date and interim retirements. The service life measures the physical
21 life expectancy of the plant in service, absent specific economic or resource
22 limitations. The remaining life of the resource base measures the expectations for
23 the exhaustion of natural resources and its impact on the assets in question. The

1 remaining economic life is the life expectancy as impacted by economic forces such
2 as changes in regulations, alternative transportation routes, or alternative energy
3 sources. The average remaining depreciable life takes all these factors into
4 consideration to select a life span for use in the depreciation calculations.

5 **C. Survivor Curve Theory**

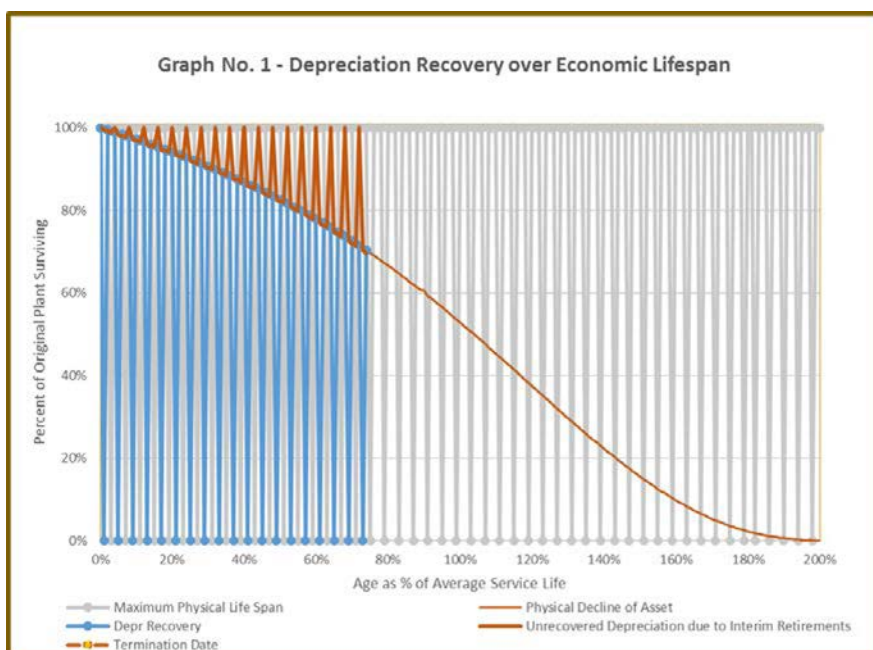
6 **Q. What is a “survivor curve theory”?**

7 A. The physical plant of large industrial entities is made up of thousands of units of
8 property. For some property accounts, the items in the account are homogeneous in
9 nature, for example, Account No. 367 – Mains is made up of line pipe, period.
10 Other accounts, such as Account No. 368 – Compressor Station Equipment
11 includes mostly the same type of equipment but in a variety of sizes, manufacturers,
12 and operational uses.

13 The grouping of assets requires the evaluation of lifespans in terms of averages. As
14 with any large grouping, some individuals in the group will live longer than others.
15 While some will drop out of service relatively early, others could physically last
16 long beyond the economic need to use them. It is important that the recovery of
17 investment through depreciation accruals calculates the average life expectancy of
18 each grouping of assets to ensure that all the dollars are recovered over the average
19 usefulness of the assets.

20 For depreciation purposes, knowing the average service life of plant and equipment
21 allows for an accommodation in the depreciation rate derivation to reflect that plant
22 retires over the years, causing a decline in the depreciation base and a possible

1 shortfall in capital recovery as illustrated in Graph No. 1, “Depreciation Recovery
2 over Economic Lifespan.” A straight-line accrual rate (across the top at 100%
3 surviving) will miss the recovery of plant retired before the termination date.



4 D. Survivor Curves

5 **Q. How are your survivor curves derived?**

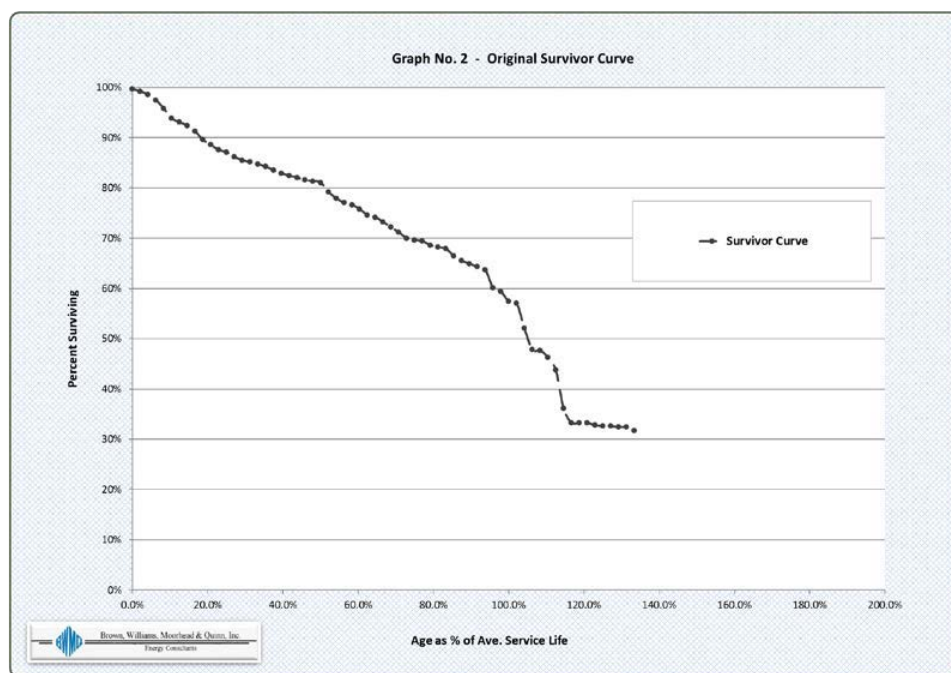
6 **A.** Deriving that estimated average service life is the foundation of depreciation rate
7 development. Unfortunately, property account records often do not provide
8 sufficient information to make a judgment of what the service life is. That
9 assessment requires a comparison of the plant record retirement data with a set of
10 already-identified asset survivorship decline curves. A survivor curve analysis
11 reveals which possible survivorship patterns best reflects the experience of the
12 particular property account. This assessment can be made using either of two
13 survivor curve methodologies depending on what kind of data is available. The
14 Vintage Plant Retirement method is preferred when vintaged data is available.
15

1 However, the Simulated Plant Record method is the more commonly used method
2 because vintage data is often not available.

3 **Q. Please explain the “Vintage Plant Retirement” method.**

4 A. The “Vintage Plant Retirement” method starts with the development of the Original
5 Survivor Curve, which reflects the survivorship pattern of the original plant data.
6 Vintaged data records the matrix of both the transaction year of the plant retirement
7 and the vintage year in which it was installed. The matrix of transaction year /
8 vintage year data is converted into a matrix of plant exposed to retirement each year
9 by vintage, and then converted again into a third matrix, of plant exposed to
10 retirement each year by age group. A fourth matrix is constructed of plant
11 retirement by age grouping. These matrices provide two data sets: plant exposed by
12 age group and plant retired by age group. In other words, all the plant additions
13 through the study date were at one time one-year old (actually ½ year old because
14 some plant does retire in its first year), hence, the total of all plant additions is the
15 starting point. But not all plant survived to become two years old and of course
16 there is one less year (the most recent year) available to be counted among the two-
17 year-olds. Similarly, not all plant survived to become three years old and there is
18 now two less years (the most recent two years) available to be counted among the
19 three-year-olds. And so on through the history of plant activity. The aged retirement
20 data set is used to calculate a retirement rate (retirements by age divided by plant
21 exposed to retirement by the same age). The retirement rate is then converted into
22 a survivorship decline rate data set. But its average service life is still not known.
23 Once the string of aged retirements is assembled, summation of surviving aged

1 plant and aged retirements reveals the actual experienced survival for the account,
2 which when plotted becomes the original survivor curve for that specific account
3 as illustrated in Graph No. 2. (The graph assumes an average service life for plotting
4 purposes but the next step in the process determines the most likely average service
5 life.)

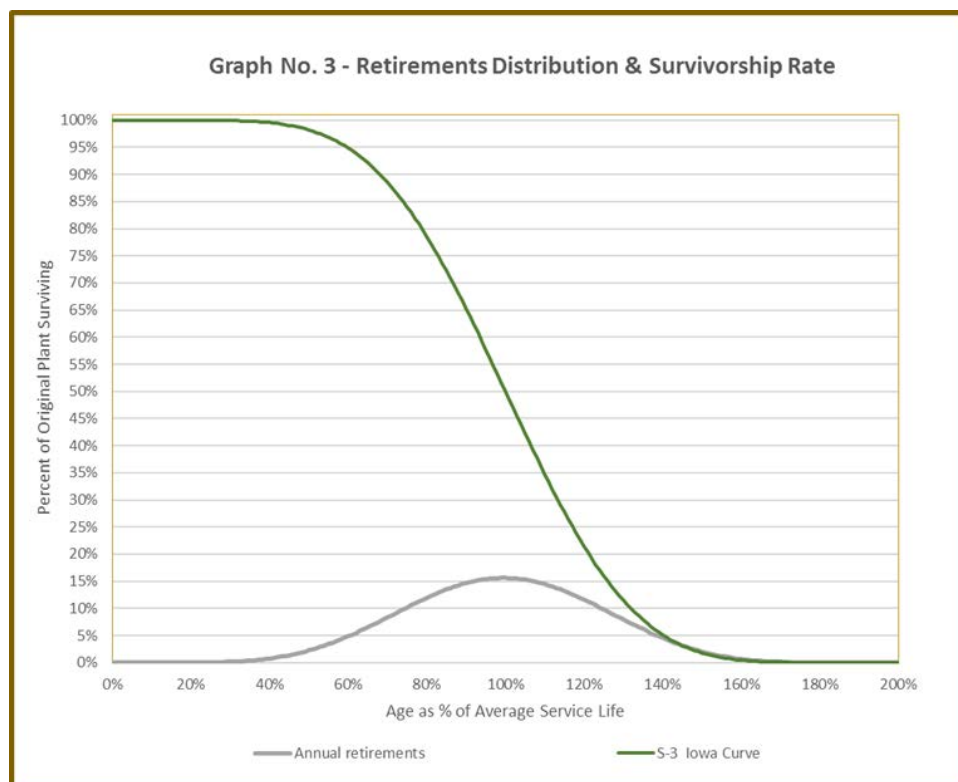


6
7 **Q. What is the next step once the original survivor curve has been determined?**

8 A. Once the original survivor curve is obtained, the question turns to what should be
9 expected of that account in terms of future retirements. For this aspect of the study,
10 we look to prototype curves that mimic the pattern of our original account activity.
11 The retirement ratios that characterize the curves are applied to the surviving plant
12 in service to generate interim retirement dollars. While there are a few options for
13 typical curve patterns, the Iowa Type Survivor curves are the most commonly used
14 for depreciation purposes and are the curves used for this study.

Q. What are “Iowa Curves”?

Iowa Curves represent standardized retirement patterns of industrial property developed from actuarial studies conducted in the 1930s where it was found that the retirement patterns of industrial property do not follow a straight line but rather are characterized by a complex life trajectory which includes a transition point where survivorship takes a dramatic downward turn. The retirement rate and survivorship rate are inversely related phenomena. The bell curve shape of retirement frequency distribution creates the ski-slope shape survivorship curve created by the frequency distribution of aged retirements as illustrated in Graph No. 3.

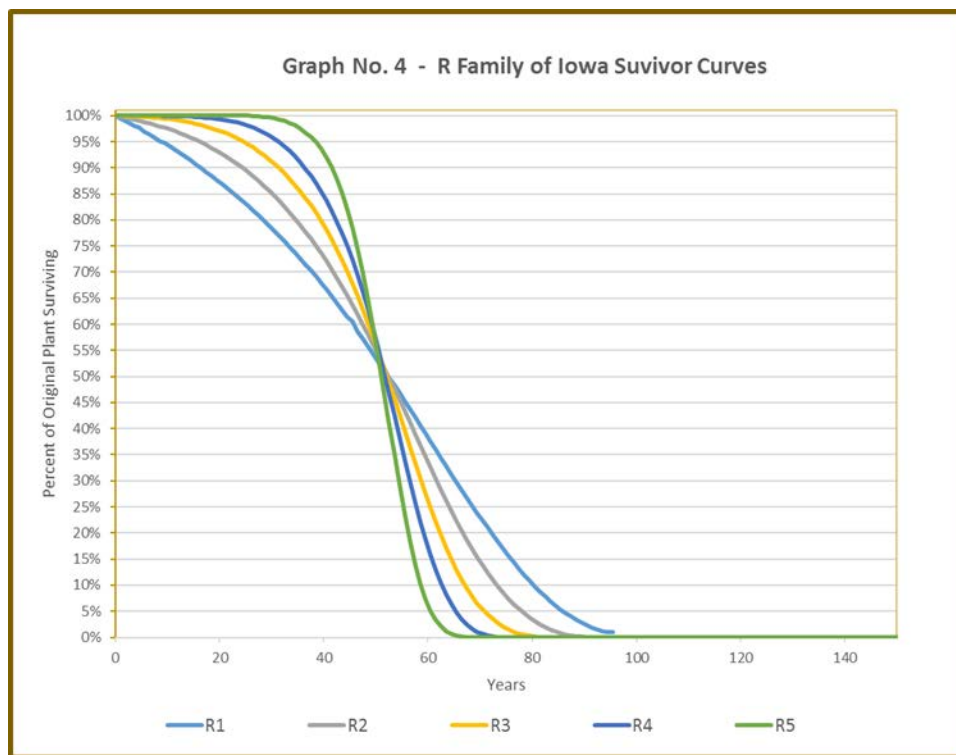


After a period of substantial retirements, the retirement pattern passes through another transition point where retirements fall off, leaving a long tail of lingering

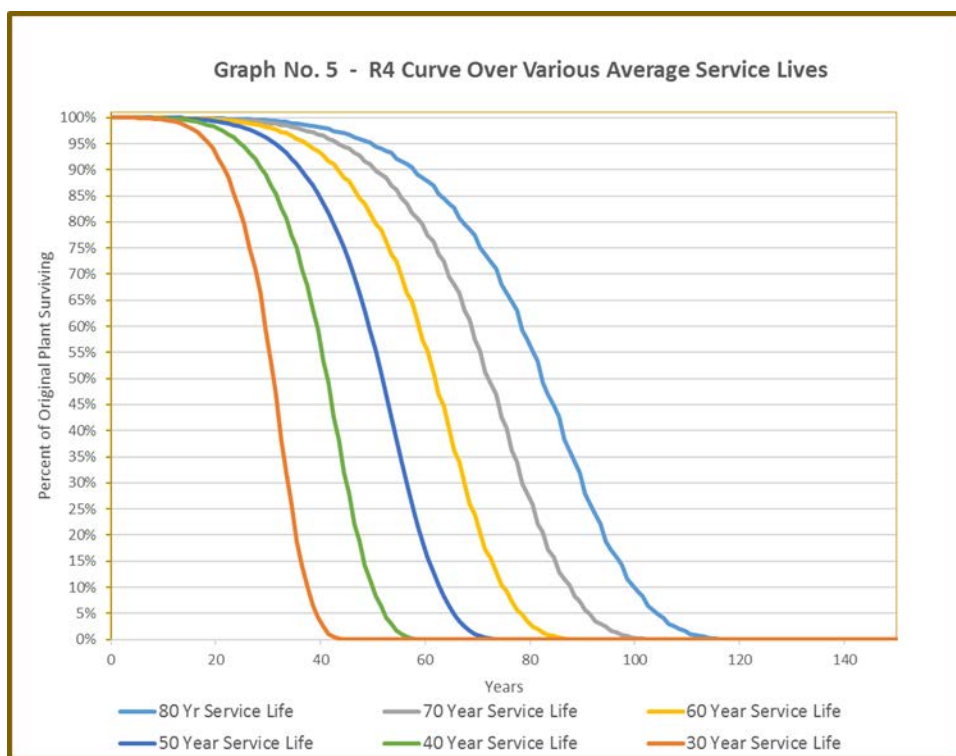
1 survivorship. The overall lifespan survivorship trajectory for most industrial
2 property follows this ski slope pattern that, despite an appearance of simplicity,
3 requires complex mathematical formulae to replicate. The most common patterns
4 were standardized as “the Iowa Survivorship Curves.”

5 **Q. How are Iowa Curves aligned?**

6 A. The Iowa Curves consist of families of curves that reflect left-modal, symmetrical-
7 modal, and right-modal frequency distributions, simply called L, S, and R curves,
8 plus a family of origin-related distribution curves, O curves. Each family of curves
9 includes four to five curve sets within the family, labeled R1, R2, R3, and so on,
10 each with slightly different slope configurations (Graph No. 4). Further, each curve
11 has representatives from each average service life age group from 5 years to 120
12 years (Graph No. 5). The modality of the curves simply reflects whether the most
13 frequently occurring retirement age is 1) younger than the average retirement age –
14 an L Curve (i.e., to the left of the average service life on a graph), or 2) older than
15 the average retirement age – an R Curve (i.e., to the right of the average service
16 life), or 3) equal to the average retirement age – an S Curve (i.e., symmetrical to
17 the average service life).



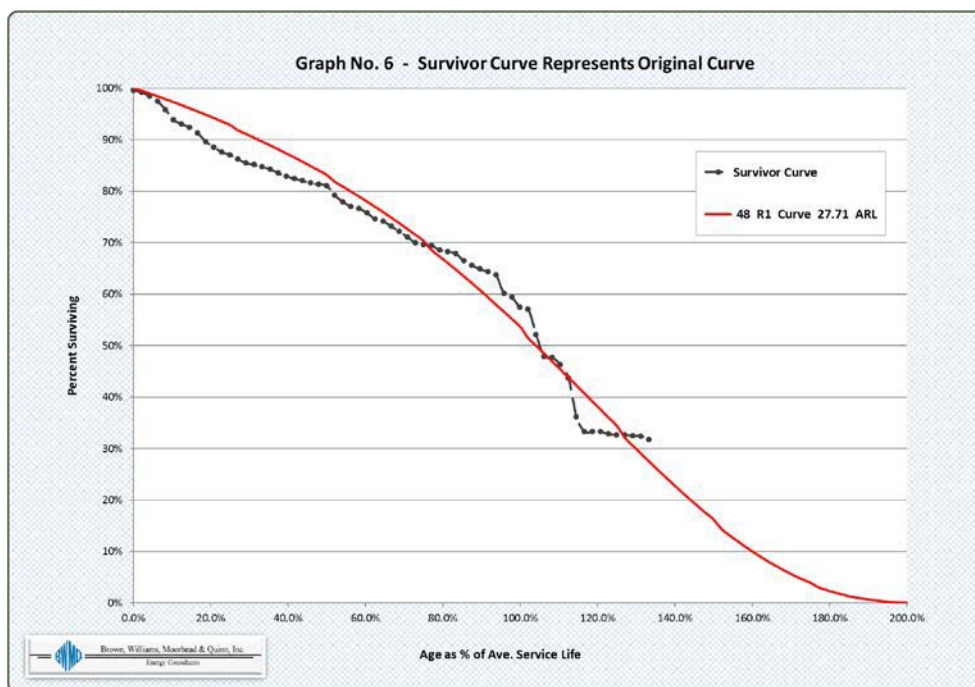
1



2

1 **Q. What is “Survivor Curve Analysis”?**

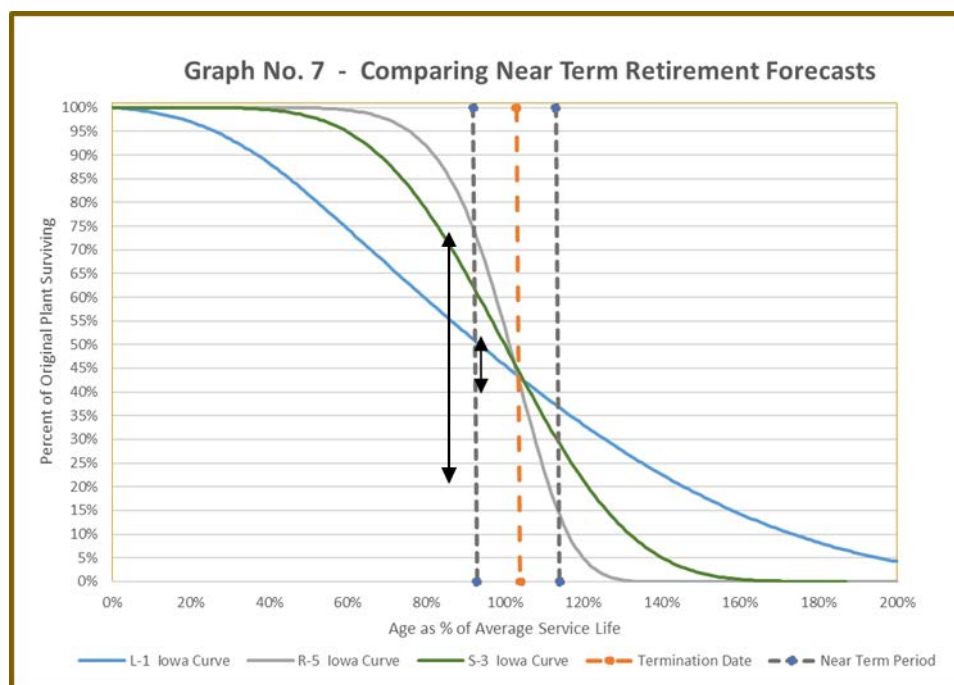
2 A. The “survivor curve analysis” primarily deals with two survivor curves: one being
3 the original curve that traces the actual surviving dollars from each vintage of plant
4 addition and the other a prototypical Iowa Curve selected to carry the trend of the
5 actual data out into the future for forecasting purposes. Once the original data is
6 synthesized into an original experience survival curve (Graph No. 2 above), the
7 curve is compared to prototypical curves (Graph Nos. 4 & 5) to find one that will
8 best forecast the most likely service life experience of the plant (Graph No. 6).



9
10 **Q. Is there a test for survivor curve accuracy?**

11 A. Survivor curve models generally use a test statistic called the least sum-of-squares
12 test to measure the accuracy of their forecasts. The sum-of-squares calculation
13 measures the differences between the actual and forecasted curves along the entire
14 span of the curve from 0 to 200 percent of the average service life. The differences

1 are squared to eliminate positive and negative differences from cancelling each
2 other out as well as to accentuate deviations. The curve with the least sum of
3 squared difference between the actual book value of the account and the predicted
4 value of the account is generally the best fitting curve and, unless some other factor
5 weighs heavily in the analysis, that curve will be used to forecast future retirements.
6 However, the Iowa Curve with the least sum of squared differences may fit the
7 *overall* pattern of the original survivor curve but may not fit the portion of the
8 original life curve relevant to the timely recovery of the utility's investments. For
9 depreciation purposes, the interim period between the study date and the
10 termination date defines the period over which the remaining undepreciated plant
11 investment must be recovered. The economic lifespan may come to an end long
12 before the physical lifespan. Tracking the retirement pattern over the interim period
13 is more important for estimating the average remaining life relevant to recovery of
14 these assets than tracking a long-term pattern that will not come to pass due to the
15 truncation of the life of the assets. Hence, the selection of a curve is derived by a
16 combination of statistical comparison and informed knowledge of the nature of the
17 assets. There can be a significant difference in the forecasted retirements among the
18 contending curve and average service life ("ASL") pairs, and thus a significant
19 difference in the derived depreciation rate. The slope of the retirement curve during
20 the interim period can be a critical factor, as seen in the difference between the
21 decline in the gray line versus the blue line in Graph No. 7.



1

2

E. Average Service Life

3 **Q. Why are the ASL's important?**

4 A. The importance of using survivor curves is that by using them, we can avoid under-
5 recovery of depreciation due to interim retirements between the study date and the
6 termination date. In general, depreciation rates recover the cost of the plant over
7 its life expectancy. The application of a straight-line depreciation rate to the annual
8 rate base builds the depreciation reserves through annual accruals in equal
9 installments. By the truncation date the plant should be fully depreciated.
10 However, if the rate base is declining because of interim retirements, the annual
11 accruals will not add up to the full amount needed for recovery by the truncation
12 date, leaving a shortfall. Calculation of the average remaining life allows us to
13 mitigate that shortfall.

1 **Q. Can you elaborate on the importance of selecting the “best fit” service**
2 **life/survivor curve pair?**

3 A. As noted in the Survivor Curve Theory discussion earlier, the statistical “best fit”
4 service life/survivor curve pair may reflect physical life span that is much longer
5 than the economic lifespan within which the investment must be recovered.
6 Together, these plant histories help inform the selection of the most appropriate
7 survivor curves and service lives. An analysis of account-by-account retirement
8 patterns and survivor curves is presented below.

9 In order to make “apples-to-apples” comparisons for best fit status, the service life
10 of the original survivor curve is adjusted to reflect that of the prototype curve
11 against which its being tested. In other words, we assume a 20-year service life
12 when comparing to 20- year curves, and 25-year service life when comparing to
13 25-year curves, and so on. This is done by converting the age into the age as a
14 percent of the assumed average service life. The prototype curves are also converted
15 into age-as-percent-of-average-service-life. The BWMQ model calculates the best-
16 fitting Iowa Curve.

17 **Q. What are “interim retirements” and how do they affect depreciation rates?**

18 A. “Interim retirements” are the routine retirements of plant and equipment that will
19 occur each year between the study date and the terminal closing of the pipeline
20 system. The importance of interim retirements, for depreciation study purposes, is
21 that such retirements shorten the average depreciable life of the assets. If some
22 units are retired prior to the end of the planned service life, the associated
23 depreciation accruals will not have fully recovered the invested cost in the assets.

1 Depreciation rates must capture the average life expectancy of the assets in the
2 accounts, which is estimated through the survivor curve analysis of interim
3 retirements. This is more fully explained in the survivor curve discussion later in
4 this section.

5 **F. Simulated Plant Record Analysis**

6 **Q. Please describe the Simulated Plant Record Analysis.**

7 A. Simulated Plant Record Analysis (“SPR”) is a methodology used to estimate the
8 appropriate ASL and retirement patterns that allow us to accurately forecast the
9 average remaining life of industrial assets. The SPR method is based on the same
10 theories and principles as the Survivor Curve Methodology. The advantage of the
11 SPR method is that the data required is simply plant additions by year and the actual
12 surviving plant balance as of the study date. The SPR model applies a prototype
13 Iowa Curve to each annual plant addition and calculates a final balance for the
14 account, assuming all the plant will retire in a pattern similar to that of one of the
15 Iowa Curves. The selected curve is used to forecast future retirements, which
16 provides the average remaining life and ultimately the depreciation rate.

17 **Q. How does the SPR model represent the actual plant activity?**

18 A. As plant ages, the surviving plant ratio falls as it moves along and down the survivor
19 curve. The average age of the plant in each account determines where the account
20 is, vis-à-vis the survivor curve, at the study date. The SPR method calculates a
21 theoretical retirement trajectory that it applies to each iteration of additions. The
22 curve that best forecasts a plant balance closest to the actual plant balance is
23 deemed, generally, to be the best representative pattern for all ages of plant. That

1 declining survival ratio determines the interim retirements expected to take place
2 between the study date and the terminal date. These retirements, in turn, are the
3 foundation for determining the average remaining life for depreciation purposes.

4 **Q. Is there a goodness-of-fit measurement to gauge the accuracy of the predicted**
5 **survivorship?**

6 A. Yes. I use two measures of the goodness-of-fit to gage whether the forecasted
7 annual retirements and survivorship levels match the actual trends in retirements
8 and survivorship. The traditional measure is called the Conformance Index ("CI"),
9 which measures how close the forecast of survivorship matches the actual surviving
10 balance at the study date. The Retirement Index ("RI") measures how well the
11 forecast of annual retirements matches recent experience of the pipeline.

12 **Q. Please describe the Conformance Index.**

13 A. The traditional goodness-of-fit measurement is called the CI. The CI is derived by
14 dividing the actual ending balance by the absolute value of the difference between
15 the actual ending balance and the predicted ending balance.

16 The predicted ending value is squared to eliminate negative numbers and then the
17 square root is taken to hold the predicted value as close to the actual value as
18 possible. If the difference between the predicted and actual ending balances is high,
19 then the CI ratio will be low. Conversely, if the difference between the predicted

and actual ending balances is low, then the CI ratio will be high. The rule of thumb for ranking CIs is:

Over 75	Excellent fit
50 to 75	Good fit
25 to 50	Fair fit
Under 25	Poor fit

The rationale for the CI valuation is that in order for the CI to reach a value of 75, the difference between the actual ending balance and the predicted ending balance must be within 1.5% of the actual ending balance. A CI value of 50 indicates a differential of only 2%. This ranking system thus requires the forecasted values to fall close to the actual values to be considered even a “fair” fitting of a hypothetical Iowa Survivor curve to the actual data.

Q. Does the Conformance Index provide a unique best fit curve?

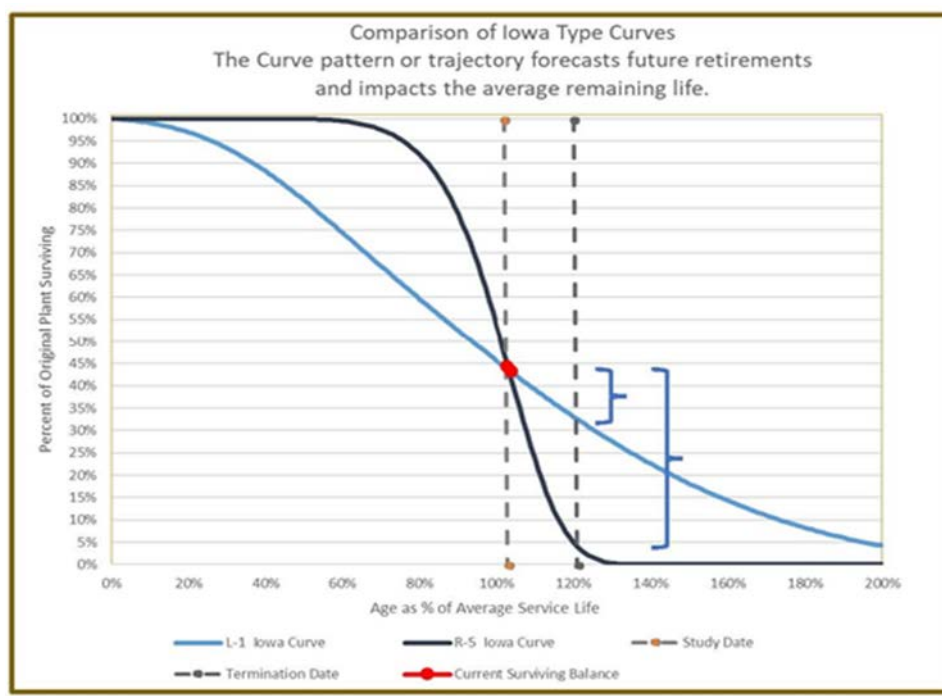
A. Not always. A CI value above 100 indicates a forecast fit that is within 1% of the actual data; larger values for the CI over 100 do not indicate a significantly better fitting curve. As the difference between the predicted ending balance and the actual ending balance gets smaller, the CI value increases. As the difference approaches zero, the CI approaches infinity. It is often the case that several curves are statistically excellent fits for the data. If more than one curve has a CI beyond 100, the analyst incorporates other factors to select an appropriate curve.

Q. Is the Conformance Index a reliable basis for determining a best fit curve?

1 A. Not always. In fact, the CI often can calculate a fit for an Iowa Curve that
2 significantly misrepresents the likely survivor pattern of a category of property.
3 The CI calculates the closeness of fit that each prototype Iowa Curve achieves in
4 forecasting the actual surviving plant balance, *i.e.*, a specific dollar value at a point
5 in time. However, for depreciation purposes we need more than a forecast of the
6 surviving balance at one point in time; it is also important to glean the trajectory of
7 the decline curve and the amount of annual retirements.

8 **Q. Does the Retirement Index test address the question of the trajectory of the**
9 **retirement distribution curve?**

10 A. Yes. I believe it does. A good forecast should reflect actual experience as much as
11 possible, but it is often the case that the “best fit” curve and service life pair come
12 from a survivor curve pattern that predicts near-term retirements that are wildly
13 divergent from the pipeline’s actual recent experience. For example, the graph
14 below shows that both survivor curves accurately predict the current surviving
15 balance and would thus have high CIs but take very different trajectories to get
16 there. The L_1 Curve has a shallower curvature and forecasts modest retirements
17 over the remaining life of the asset. The R_5 Curve has a steep declining curvature
18 and forecasts the retirement of almost all the plant over the remaining life. In such
19 cases, I try to select an Iowa Curve that forecasts near term retirements as close as
20 possible to the actual experience of retirements so that the resulting depreciation
21 rate reflects the actual average remaining life of the plant. The RI is simply the
22 comparison of the average level of annual plant retirements over the last five years
23 to the forecasted level of annual average plant retirements for the next five years.



G. Economic Life¹

Q. What is “economic life”?

A. “Economic life” is the expected period of time during which an asset remains useful to the average owner. When an asset is no longer useful to its owner, then it is said to be past its economic life. The economic life of an asset could be different than its actual physical life. Thus, an asset can be in optimal physical condition but may not be economically useful. For example, technology products often become obsolete when their technology becomes obsolete. The obsolescence of pay phones occurred due to the advent of smartphones and not because they ran out of utility.

Q. What economic life was proposed for Cardinal?

A. I proposed a 2050 economic life horizon for Cardinal.

¹ The remaining economic life was developed based on the current political landscape and environmental path. Cardinal is required to file a new depreciation study within 5 years and remaining economic life will be reassessed at that time.

1 **Q. Will there be natural gas available to Cardinal in 2050?**

2 A. Yes, in an era marked by projections of oil and natural gas reserves through 2050²,
3 contemplating the end-of-life for a natural gas pipeline may seem counterintuitive.

4 **Q. If natural gas reserves were not the driving factor for the 2050 truncation date,**
5 **what is?**

6 A. While natural gas may still be around in 2050, the obsolescence of natural gas may
7 be the result of overall demand by climate change Executive Orders (“EO”) in place,
8 and Cardinal’s contractual demand.

9 **Q. What is “climate change”?**

10 A. “Climate change” means a change in global or regional climate patterns, in
11 particular a change apparent from the mid to late 20th century onwards and
12 attributed largely to the increased levels of atmospheric carbon dioxide produced
13 by the use of fossil fuels (e.g., coal, oil, and natural gas).

14 **Q. What is an “EO”, or Executive Order?**

15 A. An “EO” is a rule or order issued by the president to an executive branch of the
16 government and having the force of law.

17 **Q. Please explain the EO’s effecting Cardinal?**

18 A. Climate change concerns are becoming a larger driving force in the development
19 of the future of energy infrastructure. On October 29, 2018, North Carolina
20 Governor Roy Cooper signed Executive Order 80 calling for a “40 percent
21 reduction in statewide greenhouse gas emissions by 2025”, and to “reduce electric
22 power sector greenhouse gas emissions by 70% below 2005 levels by 2030 and

² <https://www.eia.gov/todayinenergy/detail.php?id=49876>

1 attain carbon neutrality by 2050.”³ In addition, on January 27, 2021, the United
2 States president issued Executive Order 140083 (“EO 14008”). Executive Order
3 14008, Section 201, states:

4 *Sec. 201. Policy.* Even as our Nation emerges from profound public health
and economic crises borne of a pandemic, we face a climate crisis that
threatens our people and communities, public health and economy, and,
starkly, our ability to live on planet Earth. Despite the peril that is already
evident, there is promise in the solutions—opportunities to create well-
paying union jobs to build a modern and sustainable infrastructure, deliver
an equitable, clean energy future, and put the United States on a path
to achieve net-zero emissions, economy-wide, by no later than 2050.

5 Section 201 of EO 14008 establishes that it is the policy of the federal government’s
6 agencies to implement government-wide approaches to achieve net-zero emissions,
7 economy-wide, by no later than 2050. Additionally, Section 205 of EO 14008
8 establishes a plan to reach a “carbon pollution-free electricity sector no later than
9 2035”:

Sec. 205. Federal Clean Electricity and Vehicle Procurement Strategy. (a) The Chair of the Council on Environmental Quality, the Administrator of General Services, and the Director of the Office and Management and Budget, in coordination with the Secretary of Commerce, the Secretary of Labor, the Secretary of Energy, and the heads of other relevant agencies, shall assist the National Climate Advisor, through the Task Force established in section 203 of this order, in developing a comprehensive plan to create good jobs and stimulate clean energy industries by revitalizing the Federal Government’s sustainability efforts.

(b) The plan shall aim to use, as appropriate and consistent with applicable law, all available procurement authorities to achieve or facilitate:

(i) a carbon pollution-free electricity sector no later than 2035; and

(ii) clean and zero-emission vehicles for Federal, State, local, and Tribal government fleets, including vehicles of the United States Postal Service.

(c) If necessary, the plan shall recommend any additional legislation needed to accomplish these objectives.

(d) The plan shall also aim to ensure that the United States retains the union jobs integral to and involved in running and maintaining clean and zero-emission fleets, while spurring the creation of union jobs in the manufacture of those new vehicles. The plan shall be submitted to the Task Force within 90 days of the date of this order.

10

³ https://files.nc.gov/ncdeq/climate-change/clean-energy-plan/NC_Clean_Energy_Plan_OCT_2019_.pdf

1 **Q. How could the federal and state issued EO's impact Cardinal?**

2 A. It is uncertain how the goals of the Executive Orders mentioned above will be
3 achieved, but if they do come to fruition, it is reasonable to believe that the effort
4 to reach net-zero emissions by 2050 may result in (i) a substantial decrease in the
5 consumption of natural gas, including the natural gas transported on Cardinal, (ii)
6 a resulting substantial decrease in the utilization of natural gas infrastructure, and
7 (iii) an increase in the use of alternate energy sources.

8 In addition, 58 percent of Cardinal's capacity is contracted under agreements that
9 are already in "evergreen" status, i.e., beyond expiration of their primary terms, and
10 subject to unilateral termination by Cardinal's shippers on short notice. The
11 remaining 42 percent of capacity will be in "evergreen" status in 2032. Moreover,
12 Cardinal's competitors are competing for both new and existing business
13 throughout the Cardinal market area through proposed new and existing pipelines
14 with designed expansion capabilities. As such, proposing an economic life
15 truncated at 2050 for ratemaking purposes is reasonable given Cardinal's shippers'
16 rights to terminate their agreements, the potential for development of alternative
17 options to supply their natural gas needs, and the uncertainty of how Executive
18 Orders' 80 and 14008 shared goal of a 2050 net-zero horizon will affect natural gas
19 demand.

H. Average Remaining Lives

1
2 **Q. Describe the concept of truncation?**

3 A. The incorporation of a truncation date is often unrelated to the physical
4 characteristics of the asset itself but due to reasons such as the loss of reserves
5 supporting its use, technical obsolescence bringing about replacement, or the
6 requirements of public authorities that may lead to economic obsolescence of
7 certain facilities, the truncation may cause the remaining life of the assets to be less
8 than the average physical life.

9 **Q. What economic life have you selected?**

10 A. I have used a 2050 termination date. Please see “Economic Life” section for more
11 details.

12 **Q. Describe the concept of the “average remaining life”.**

13 A. The average remaining life (“ARL”) calculation is restricted to the time between
14 the study date and the termination date, the period over which the company’s
15 remaining net plant will be depreciated. At the end of that period, it is assumed
16 there will be no further opportunity to recover the plant investment. Some plant
17 will expire within a few years; other assets will last the entire remaining economic
18 life – depreciation is recovered over the average lifespan. Dividing the sum of the

1 surviving balances as calculated by the survivor curve by the starting balance
2 provides the ARL, which is used in the depreciation calculations.

3 **a. Intangible Plant**

4 **Q. Describe your assessment of Account No. 302 – Franchises and Consents.**

5 A. Account No. 302, Franchises and Consents shall include the book cost paid to the
6 Federal Government, to a State or to a political subdivision thereof in consideration
7 for franchises, consents, or certificates. Account No. 302, which has an average age
8 of 22 years, does not have any recent retirements. As such, the standard goodness-
9 of-fit test measures are not relevant. In lieu of data-driven curve indicators, we have
10 selected the longest ASL in our study of 85 years (Account No. 368) and the
11 corresponding average remaining life (“ARL”) in Schedule 7 of Exhibit No. CPC-
12 003 at 28.63 for a resulting depreciation rate of 0.55%. A negative salvage rate was
13 not applied as Intangible plant does not have negative salvage.

14 **Q. Describe your assessment of Account No. 303 – Miscellaneous Intangible**
15 **Plant.**

16 A. Account No. 303, Miscellaneous Intangible Plant shall include the cost of patent
17 rights, licenses, privileges, and other intangible property necessary or valuable in
18 the conduct of the utility’s gas operations. In this account, the costs recorded were
19 for work performed on a third-party system relating to metering facilities. Account
20 No. 303, which has an average age of 20.40 years, does not have any recent
21 retirements and as such, the standard goodness-of-fit test measures are not relevant.
22 Again, in lieu of data-driven curve indicators, and based on the assets within the
23 account, we used an ASL of 60 and ARL of 27.60 calculated in Account No. 369

1 for a resulting depreciation rate of 1.57%. A negative salvage rate was not applied
2 as Intangible plant does not have negative salvage.

3 **b. Transmission Plant**

4 **Q. Describe your assessment of Account Nos. 365.12 and 356.12 – Land.**

5 A. Account Nos. 365.11 and 365.12 are designated for Land (365.11) which includes
6 the cost of land purchased in fee for use in pipeline operations and limited rights to
7 use land (Account No. 365.12). The accounts include the costs of clearing the land
8 of vegetation and structures as needed for pipeline installation. Land is not
9 depreciable; however, Land Rights are depreciable. Account No. 365.12, which has
10 an average age of 22 years, does not have any recent retirements. As such, the
11 standard goodness-of-fit test measures are not relevant. In lieu of data-driven curve
12 indicators, we have selected an industry standard curve, the 65-R2, as a placeholder
13 for curve selection until such time as sufficient retirements can provide better
14 guidance. Given the average age and selected Iowa curve, Account No. 365.12 has
15 an ARL of 26.39 resulting in a depreciation rate of 1.93%. Because, little or no
16 removal cost is incurred and no salvage is received at the retirement of land rights,
17 we recommend a negative salvage rate of 0.0% for this account.

18 **Q. Describe your assessment of Account No. 365.2 – Rights of Way.**

19 A. Account No. 365.2, Rights of Way, includes the cost of acquiring the rights of way,
20 or permission, to use land for pipeline operations. Rights of Way agreements are in
21 use for the entire life span of the facilities placed upon them, hence, the average
22 service life often reflects that of the longest-lived asset, the pipeline itself.
23 Cardinal's 2004-2020 Form 2A data indicated no recent retirement activity. Again,

1 we have selected an industry standard curve, the 65-R2, as a placeholder for curve
2 selection until such time as sufficient retirements can provide better guidance.
3 Given the account's 16.72-year average age, we calculated an ARL of 26.84 which
4 results in a depreciation rate of 1.90%. Adding the negative salvage rate of 0.07%
5 brings about a composite depreciation and negative salvage rate of 1.97%.

6 **Q. Describe your assessment of Account 366.1 – Compressor Station Structures**
7 **and Improvements.**

8 A. Account No. 366.1, Compressor Station Structures and Improvements includes the
9 cost in place of structures and improvements used in connection with compressor
10 station operations. Cardinal's 2004-2020 Form 2A data indicated no recent
11 retirement activity. We selected an industry standard curve, the 45-R2, as a
12 placeholder for curve selection until such time as sufficient retirements can provide
13 better guidance. Given the account's average age of 9.00 years, we calculated an
14 ARL of 25.70, which generates a depreciation rate of 3.03%. Adding the negative
15 salvage rate of 0.48% brings about a composite total of 3.51%.

16 **Q. Describe your assessment of Account 366.2 – Meter Station Structures and**
17 **Improvements.**

18 A. Account No. 366.2, Meter Station Structures and Improvements includes the cost
19 in place of structures and improvements used in connection with meter station
20 operations. Cardinal's 2004-2020 Form 2A data indicated no recent retirement
21 activity. We again selected an industry standard curve, the 45-R2, as a placeholder
22 for curve selection until such time as sufficient retirements can provide better
23 guidance. Given the account's average age of 16.30, we calculated an ARL of 24.18

1 using an industry accepted 45-R2, which results in a depreciation rate of 2.60%.

2 Adding the negative salvage rate of 0.25% generates a composite rate of 2.85%.

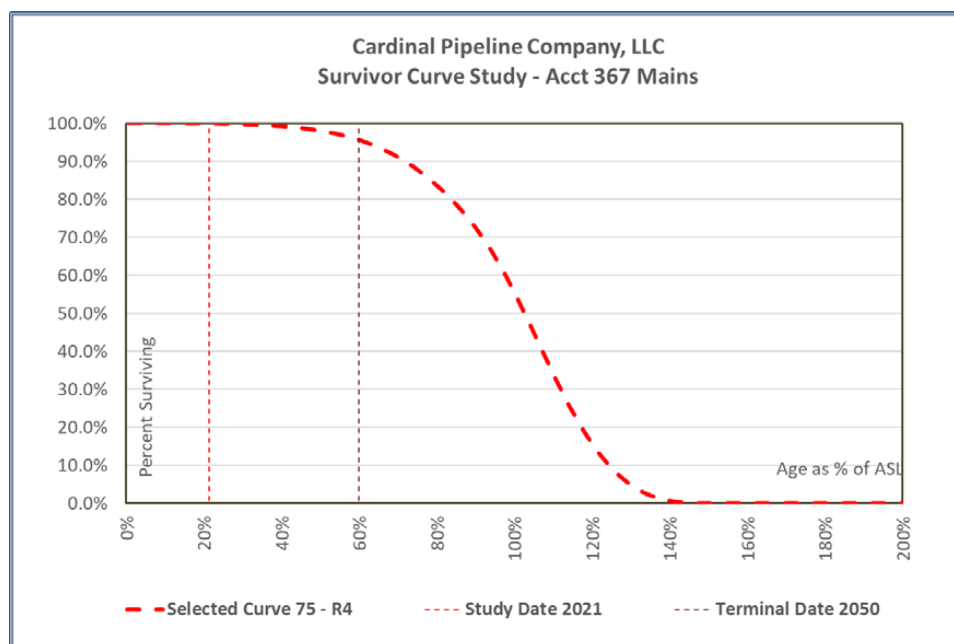
3 **Q. Describe your assessment of Account 367 – Mains.**

4 A. Account No. 367, Mains, records the original cost of the line pipe actually installed.

5 Line pipe is a long-lived asset that with proper corrosion maintenance can last for
6 many decades. Cardinal's 2004-2020 Form 2A data indicated that Account No. 367
7 maintains a long-term stability with few incidents of retirements periods.

8 The Survivor Curve graph for Account 367, below, presents the best fit pair of
9 average service life and Iowa survivor curve. The 75-R4 Curve appears to fit the
10 data better than the other curves (see Exhibit No. CPC-0004, Best 5-Year
11 Retirement Predictors chart). The 75-R4 Curve will be used to estimate future
12 retirements from current surviving plant balances. Applying the 75-R4 Curve to the
13 current plant in service, with its average age of 16.02 years and a 2050 truncation
14 forecast, results in a 28.63-year ARL with a 1.75% depreciation rate. Adding
15 0.75%⁴ for negative salvage rate brings about a 2.50% composite depreciation rate.

⁴ This rate includes the costs of Cardinal's ARO and any negative salvage recovery will be sourced to the recovery of legal obligations first.

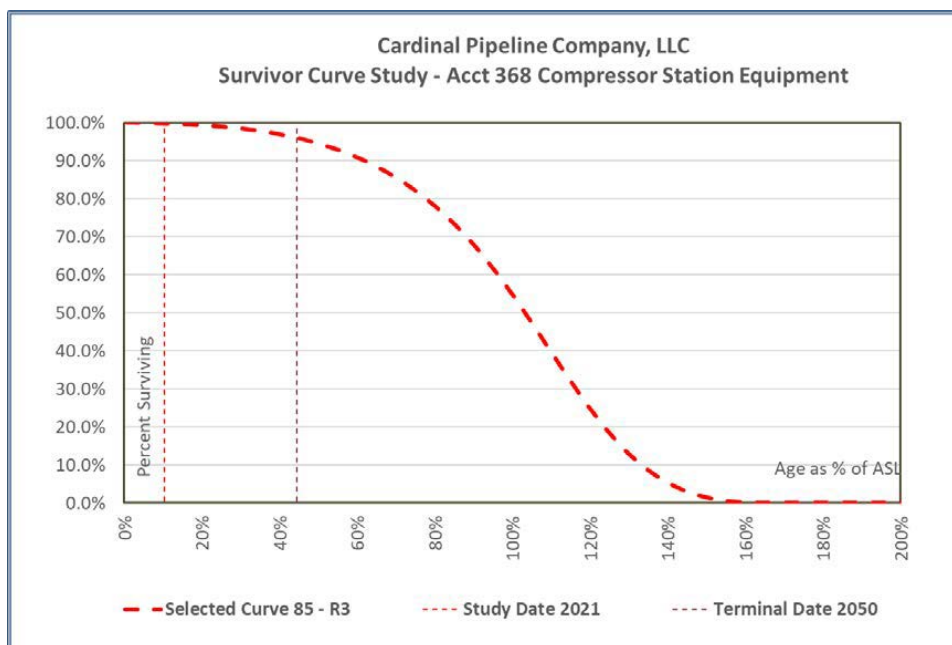


Q. Describe your assessment of Account 368 – Compressor Station Equipment?

A. Account No. 368, Compressor Station Equipment includes the cost installed of compressor station equipment and associated appliances used in connection with transmission system operations. The Account No. 368 asset list is made up of compressor air system equipment, compressors, foundations, electrical systems, firefighting equipment, gas lines, laboratory equipment, lubricating oil systems, office furniture and fixtures, shop tools and water supply systems. Cardinal's 2004-2020 Form 2A data indicates that Account No. 368 maintains a short-term stability with one recent incident of retirement in 2016.

The Net Additions and Retirements graph again reflects only one retirement in its recent history. The Survivor Curve graph for Account 368, below, presents the best fit pairs of average service life and Iowa survivor curve. The 85-R3 Curve appears to fit the data better than the other curves and will be used to estimate future retirements from current surviving plant balances (see Exhibit No. CPC-0004, Best

5-Year Retirement Predictors). Applying the 85-R3 Curve to the current plant in service, with its average age of 8.87 years, results in a 28.59-year ARL, which generates a 2.63% depreciation rate. Adding the negative salvage rate of 0.31% brings about a composite total of 2.94%.

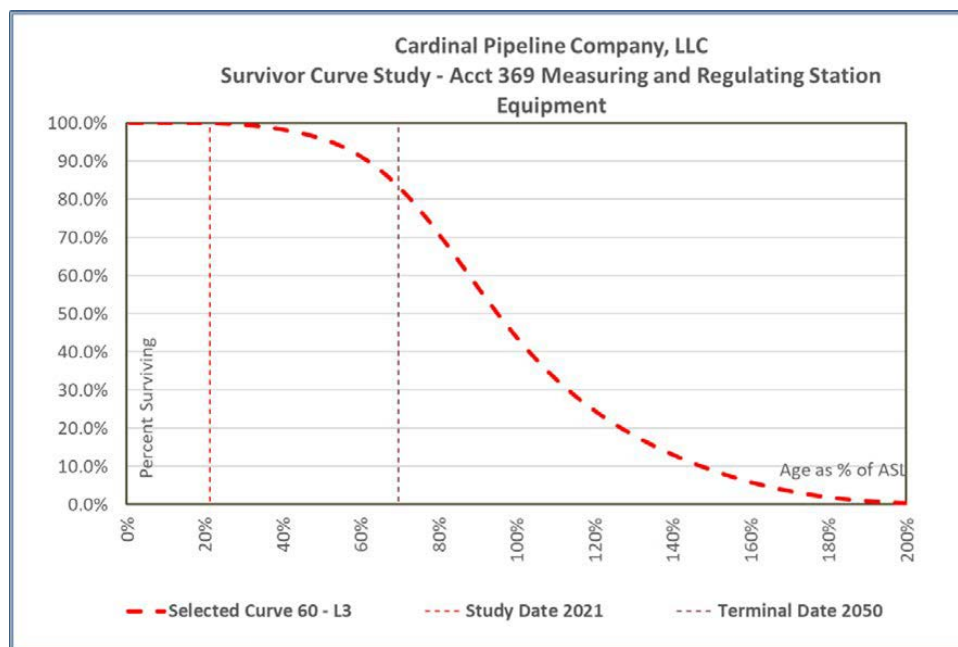


Q. Describe your assessment of Account 369 – Measuring & Regulating Equipment?

A. Account No. 369, Meter Station Equipment includes the cost installed of meters, gauges, and other equipment used in measuring or regulating gas in connection with transmission system operations. The Account No. 369 asset list is made up of automatic control equipment, boilers, heaters, foundations, gas cleaners/scrubbers/separators/dehydrators, gauges and instruments, headers, meters, oil fogging equipment, odorizing equipment, regulators and governors, and structures. The 2004-2020 Form 2A data indicate that Account No. 369 maintains

a short-term stability with two recent incidents of retirements periods, 2016 and 2019.

The Survivor Curve graph for Account 369, below, presents the best fit pairs of average service life and Iowa survivor curve. The 60-L3 Curve appears to fit the data better than the other curves and will be used to estimate future retirements from current surviving plant balances (see Exhibit No. CPC-0004, Best 5-Year Retirement Predictors chart). Applying the 60-L3 Curve to the current plant in service, with its average age of 12.83 years, results in a 27.60-year ARL, which generates a 2.13% depreciation rate. Adding a negative salvage rate of 0.36% brings about a 2.49% composite depreciation rate.



c. General Plant

Q. What were your conclusions regarding General Plant depreciation rates?

1 A. The depreciation rates for general plant assets and facilities are often calculated on
2 a whole life basis in which depreciation rates are calculated by dividing 1 by the
3 estimated Average Service Life (ASL). When using the whole life basis method,
4 as is generally the case for general plant, there are three methods of estimating the
5 ASL, or lifespan: 1) a survivor curve analysis, 2) the vintage plant accounting
6 method, or 3) by the turn-over method. In addition, the average service life may
7 be set by reference to third parties: such as the US Office of Management and
8 Budget, or by reference to authority of individuals with experience working with
9 the asset. Under vintaged accounting, general plant account assets face retirement
10 at a uniform age regardless of condition of any individual asset. For example,
11 automobiles within a fleet might be retired at four years, regardless of miles driven
12 or condition of the car. Under the turn-over rate model, the depreciation rate is set
13 by the average rate at which plant retires from each account. I selected the whole
14 life rate due to the relatively young age of the plant resulting in limited retirement
15 data. These calculations are shown in Schedule No. 5 of Exhibit No. CPC-003. The
16 average service lives were taken from the United States Office of Management and
17 Budget (US OMB) Useful Life and Disposal Table to calculate an appropriate
18 placeholder depreciation rate for accounts under general plant:

General Plant

		US OMB Life Tables ¹	
390.0	Struct. & Impr. - Office Bldg	10.00	10.00%
391.0	Office Furniture & Equipment		
-	OFF001- Tower Office Furn. & Equip.	10.00	10.00%
-	DPC001-Data Process & Comp.Equip.	8.00	12.50%
-	DEV001-Developed Software	15.00	6.67%
392.1	Transportation Equipment	6.00	16.67%
394.0	Tools Shop & Garage Equipment	20.00	5.00%
396.0	Power Operated Equipment	10.00	10.00%
397.0	Communication Equipment	23.00	4.35%

¹ - Average service lives taken from United States Office of Management and Budget Useful Life and Disposal Table

I. Negative Salvage

Q. What is “negative salvage?”

A. “Negative salvage” – also called “net salvage” – is the cost of taking plant out of service where the costs of removal exceed the salvage value of the plant removed from service. In many instances the cost is *de minimis* and treated as maintenance expense but in other instances substantial costs can be incurred. When these costs become sizable, they are treated as part of the recovery of capital costs and debited to the accumulated reserve for depreciation. Similarly, the salvage value of assets removed from service represents a recovery of some of the cost of acquiring the asset and is thus also treated as part of the depreciation of capital costs, in this case a credit to the accumulated reserve for depreciation.

Q. Does Cardinal currently have negative salvage rates?

A. Yes. Cardinal does have negative salvage rates as indicated on Schedule No. 2 of Exhibit No. CPC-003.

Q. How does interim retirement negative salvage differ from terminal

1 **decommissioning negative salvage?**

2 A. Assets removed from service during the pipeline's on-going service life are known
3 as interim retirements – the “interim” being the time between being placed in
4 service and the end of the pipeline's economic service life. Interim retirements are
5 undertaken to maintain system reliability, upgrade or improve plant, expand the
6 system, remove plant no longer needed, or carryout government required activities.
7 The net cost of removing the old assets is considered an interim retirement negative
8 salvage and is part of on-going operations. The cost of removal expenses is charged
9 to Account 108, Reserve for Depreciation.
10 Upon reaching the end of its economic service life, the pipeline will be
11 decommissioned, the services abandoned, the line purged and cleaned, the
12 aboveground facilities at meter stations and compressor stations removed, rail and
13 road crossings secured and grouted, and the land reclaimed. The cost of returning
14 the right of way to pre-build condition is, like the construction of the system, an
15 obligation that should be borne by all generations of customers who benefitted from
16 those assets to the extent of Cardinal's ability to estimate and allocate those costs.
17 The cost for the terminal abandonment and decommissioning are covered in the
18 Terminal Decommissioning section of this testimony.

19 **Q. What is your recommendation regarding Cardinal's negative salvage on**
20 **interim retirements?**

21 A. Schedules 8 through 8f of Exhibit No. CPC-0003, Cardinal Depreciation
22 Workpapers reference the terminal costs per plant calculated within the Terminal
23 Decommissioning Cost (“TDC”) estimate, utilizing the percent of remaining plant

1 calculated in Schedule 6, to calculate the interim retirement costs and plant subject
2 to terminal decommissioning per account. These costs are then spread over the
3 average remaining life for each account and calculated into an account specific
4 composite negative salvage recovery rate, as shown in Column C, Row 37 for each
5 page in Schedules 8 through 8f of Exhibit No. CPC-0003.



6
7 **IV. TERMINAL DECOMMISSIONING COST**

8 **Q. Please explain what is encompassed within your TDC estimate.**

9 My TDC estimate is an assessment of the cost for Cardinal to decommission
10 its system, cease operations, remove, as appropriate, plant in service, and
11 restore the rights of way to preconstruction condition at the end of the
12 system's useful life. My TDC estimate includes an estimate of the salvage
13 value of Cardinal's equipment and facilities as an offset against
14 decommissioning and associated costs.

1 **Q. Please briefly discuss the major tasks that form the basis of an**
2 **abandonment cost analysis.**

3 A. An abandonment cost analysis includes the cost of removal of all above-
4 ground facilities and any costs associated with the restoration of the surface
5 and sub-surface land. There are many steps involved with restoring land. For
6 example, all underground transmission pipe would need to be cleaned and
7 purged, with pipe left in place capped, and other pipe completely removed.
8 All railroad crossings, highway, and road crossings, as well as all small
9 stream and river crossings would be abandoned in place. Further, all remote
10 valve sites, cathodic protection facilities, pipeline markers, measurement and
11 regulation facilities, and compressor stations and other above-ground
12 facilities would be removed, and site restored.

13 **Q. How can you estimate today the cost of an operation that will take place**
14 **many years in the future?**

15 A. The cost of providing natural gas pipeline transportation service includes
16 construction of the system, operating the system, and eventually dismantling
17 and removing the system. My TDC estimate does not estimate a future cost
18 but rather what it would cost today's customers to dismantle today's plant at
19 today's costs.

20 **Q. Will today's plant and equipment still be around when the system is**
21 **dismantled and removed?**

1 A. The removal of facilities during the continued operation of the pipeline
2 constitutes “interim retirements.” Interim retirements refer to the
3 replacement of facilities required to maintain the system through or until the
4 terminal decommissioning date. The accrual accounting system provides for
5 the build-up of reserves prior to the actual decommissioning. Should some
6 plant be prematurely abandoned, the costs of removal and salvage will flow
7 through Account 108, absorbing some of the accrued reserve.

8 **Q. How does terminal decommissioning differ from interim retirement?**

9 A. Terminal decommissioning refers to the dismantlement and removal of the
10 entire network at the end of its useful life. Terminal decommissioning is, by
11 definition, happening at the end of the useful life so plant will not be replaced,
12 and the full cost of retirement will be apparent and should be fully recovered.
13 By contrast, interim retirement refers to the replacement of facilities required
14 to maintain the system during the system’s useful life.

15 **Q. What government materials and resources did you use or consult in**
16 **developing your TDC estimate?**

17 A. I reviewed the following materials issued by the U.S. Department of
18 Transportation (“DOT”): (1) minimum safety regulations for abandonment
19 of facilities; (2) guidelines to purge pipelines; and (3) line pipe Class
20 Location Guidelines. Secondly, I reviewed 18 C.F.R. § 380.5(b), regarding
21 the environmental assessment of the pipeline’s plans for abandonment in

1 place or removal of the assets. Third, I reviewed 33 C.F.R. § 322.3, regarding
2 permits from the U.S. Army Corps of Engineers for work in and around
3 navigable waters of the United States. Fourth, I reviewed 49 CFR Part 192,
4 Section 727, abandonment or deactivation of facilities. Fifth, I reviewed
5 Chapter 11, Contingency, of the U.S. Department of Energy's ("DOE") *Cost*
6 *Estimating Guide*, as well as the U.S. Army Corps of Engineers' publication,
7 *Engineering and Design: Civil Works Cost Engineering*, relating to
8 contingency costs. Finally, I reviewed Army Corps of Engineers
9 publications *Cost-Competitive Construction Management: A Review of*
10 *Corps of Engineers Construction Management Costs*⁵ and *U.S. Army Corps*
11 *of Engineers Military Construction Management Cost*⁶ regarding
12 construction management cost data used to develop private-sector costs for
13 providing construction management services. See also Exhibit No. CPC-
14 0006, Supporting Documents.

15 **Q. Were you able to review any additional materials or resources for use in**
16 **developing your TDC estimate?**

17 **A.** Yes. I reviewed Cardinal plant asset data. In addition, I reviewed current
18 labor rates and construction cost information in engineering industry

⁵ USACE, *Cost-Competitive Construction Management: A Review of Corps of Engineers Construction Management Costs* (June 1990), <https://apps.dtic.mil/dtic/tr/fulltext/u2/a227175.pdf>.

⁶ USACE, *U.S. Army Corps of Engineers Military Construction Management Costs* (May 1994), <https://apps.dtic.mil/dtic/tr/fulltext/u2/a283018.pdf>.

1 publications. I also reviewed the Federal Emergency Management Agency's
2 ("FEMA") *Debris Estimating Field Guide*,⁷ which provides debris
3 measurement guidance and calculations. I utilized construction takeoff
4 software to capture estimated material takeoff ("MTO") quantities from plot
5 plans into a quantifiable data set. MTO refers to a list of materials with
6 quantities (such as building volume) and types (such as specific grades of
7 steel) that are required to build a designed structure or item. This list is
8 generated by analysis of a blueprint or other design documents. For the final
9 step in developing the TDC estimate, I incorporated the quantities generated
10 from the MTO estimate into a proprietary project management takeoff
11 software to generate estimates for labor, material, and equipment costs.

12 **Q. How did you familiarize yourself with Cardinal to develop your**
13 **estimates?**

14 A. I familiarized myself with Cardinal system maps, schematic drawings, and
15 documentation describing and depicting Cardinal's physical plant in service.
16 Additionally, I reviewed design drawings, standard details of Cardinal's
17 facilities, and pipeline abandonment guidelines.

18 **J. Decommissioning Costs**

19 **Q. What were the parameters upon which your Cardinal TDC estimates**

⁷ FEMA, *Debris Estimating Field Guide* (Sept. 2010), https://www.fema.gov/media-library-data/1558616150217-8ff03e353e675b00c08a84b5916fa397/fema_329_debris_estimating_field_guide_9-1-2010.pdf.

1 **are based?**

2 A. I reviewed the Cardinal Standard Operating Procedures, Exhibit No. CPC-
3 0006, Supporting Documents, page 33, as it includes a list of parameters
4 utilized.

5 **Q. Please comment on how you developed the cost estimate model for your**
6 **TDC estimates.**

7 A. My cost estimates are based on the removal or abandonment in place of
8 physical property. The amount of physical material to be removed or
9 abandoned is derived by a MTO list developed from company plot plans and
10 profiles, design drawings, and utility details from throughout the Cardinal
11 system, as shown in the Exhibit No. CPC-0005, TDC Workpapers, page 34-
12 42, “Material Takeoff Packet”.

13 **Q. How did you estimate the costs for each phase of removal or**
14 **abandonment?**

15 A. I broke out work into its major components, such as demolition and removal
16 of compressor station, meter station, and line pipe. Then, in the case of
17 removal, I estimated the cost of removing subsets of each component, e.g.,
18 surface and subsurface material. I broke out abandonment work into major
19 components related to, for example, type of crossing—road, railroad line,
20 stream—as well as separately analyzing transmission and storage-related
21 abandonment activities, for purposes of deriving cost estimates. These cost

1 estimates were based on my expertise regarding crew size, and required skill
2 sets, equipment, and time.

3 **a. Labor, Material, and Equipment Cost Estimates**

4 **Q. Would Cardinal handle all the work associated with terminal retirement**
5 **in-house, or hire outside contractors?**

6 A. Given the nature of the work and Cardinal's current workforce, Cardinal
7 would need to hire outside contractors to perform tasks associated with
8 terminal abandonment.

9 **Q. What type of contractors would Cardinal employ to terminally abandon**
10 **its facilities?**

11 A. Due to the numerous rivers, streams, highways, railroads, and other
12 infrastructure (such as communications lines, electrical lines, and other
13 pipelines) which Cardinal's pipelines cross Cardinal would hire contractors
14 skilled in pipeline construction/demolition techniques suitable for terminal
15 abandonment activities.

16 **Q. What type of skilled workers would be required to terminally abandon**
17 **its facilities?**

18 A. Skilled operators would be required to safely and efficiently operate heavy
19 equipment necessary to perform specific tasks such as excavation, loading
20 material, and backfill. Pipe fitters skilled at the disassembly of pipe systems,

1 which include pipe and compressor station component removal, would also
2 be required.

3 **Q. What pipeline contractor labor rates have you included in your TDC**
4 **estimates?**

5 A. I conservatively used non-union labor rates in my estimates. Labor costs are
6 based on working an eight-hour day in daylight hours in moderate
7 temperatures and estimated based on 2021 average wage rates. The 2021
8 average wage rates were then adjusted to three market locations in North
9 Carolina in which Cardinal operates. See Exhibit No. CPC-0005, TDC
10 Workpapers, page 32. Labor costs and productivity are based on actual
11 working conditions, material receiving and handling, mobilization at site, site
12 movement, breaks and cleanup. Based on my experience, whether or not a
13 contractor is a union labor shop, it will pay some union labor rates to skilled
14 employees in the types of trades required to decommission a pipeline, thus
15 my use of non-union labor rates is conservative.

16 **Q. What is labor burden and is it reflected in your estimates?**

17 A. Labor burden is the full cost to have an employee in a company, aside from
18 the salary the employee earns. Labor burden costs may include, but are not
19 limited to, benefits for employees included on their payroll, payroll taxes,
20 pensions, and health and dental insurance. Similarly, company paid time off,
21 such as paid sick, holiday or training time, are also considered part of the

1 labor burden since they are also a cost to the company. It is assumed that the
2 general contractor hired to perform the abandonment would incur these in-
3 house costs, and thus include them in the cost estimate provided to Cardinal.
4 My estimate includes costs associated with labor burden.

5 **Q. Did you include an allowance for subcontractor overhead and profit**
6 **(“O&P”) costs in your TDC cost estimate?**

7 A. Yes. Total Cost, including O&P for the subcontractor is displayed on the
8 current estimate in the last column on the right for each workpaper in
9 Cardinal’s TDC Workpapers, Exhibit No. CPC-0005. This figure is the sum
10 of the bare material cost plus an industry standard ten percent for profit, the
11 base labor cost plus appropriate labor burden, and the bare equipment cost
12 plus ten percent for subcontractor overhead.

13 **Q. What equipment rates did you use in your TDC estimates?**

14 A. Equipment costs include not only rental, but also operating costs for
15 equipment under normal use. The operating costs include parts and labor for
16 routine servicing, such as repair and replacement of pumps, filters and worn
17 lines. Equipment rental rates are obtained from industry sources throughout
18 North America, including contractor, suppliers, dealers, manufacturers, and
19 distributors. Cardinal equipment rates were averaged from the same three
20 applicable Cardinal market locations within North Carolina, available within
21 the cost estimating software package.

1 **Q. What material cost did you use in your TDC estimates?**

2 A. I used direct material cost, which is the cost of the raw materials and
3 components, such as soil and seed utilized in the restoration process, plus the
4 transportation cost of getting materials to the site. A company may buy
5 materials from suppliers, create them on-site, or buy them from its own
6 subsidiaries. I based my estimate of these material costs on my first-hand
7 construction experience, as well as utilizing 2021 Cardinal asset location
8 specific rates previously mentioned, calculated within the project
9 management model.

10 **Q. How did you develop the equipment and labor estimates, and estimate**
11 **the time needed to carry out specific demolition activities in your TDC**
12 **estimate?**

13 A. I relied on my experience as a project manager, in particular, as Project
14 Engineer for three years recently at ACC where I directly oversaw every
15 aspect of gas, water and sewer pipeline, and electric project activities. My
16 experience, coupled with the applicable project management software, led to
17 the development of activities outlined in the final TDC cost estimate.

1 **Q. Did you include environmental costs in your TDC?**

2 A. Yes. Environmental costs, such as monitoring during final abandonment
3 activity, conducting tests for hazardous materials, and writing reports were
4 incorporated into each cost estimate.

5 **Q. Similarly, did you include an allowance for pipeline company inspection**
6 **in your TDC estimate?**

7 A. Yes. An inspector was included in each estimate to account for the
8 supervision necessary to monitor the daily activities required to complete
9 each estimated task. The inspection time required was calculated based on
10 the longest projected production timeline for that estimate.

11 **Q. Did you include an allowance for per diem in your terminal**
12 **decommissioning study estimate?**

13 A. Yes. Per diem was included in each estimate to account for food and lodging
14 necessary to complete each estimated task. Estimated per diem costs were
15 based on labor hours projected per cost estimate multiplied by FY 2021
16 General Services Administration (“GSA”) average rate of \$114/day
17 generated from a GSA list of three North Carolina locations available that
18 relate to Cardinal’s market locations. *See* Exhibit No. CPC-0005, TDC
19 Workpapers, page 33, “Per Diem Determination” spreadsheet.

20 **Q. Please explain how the labor, material, and equipment rates from the**
21 **two locations were used in the TDC estimate.**

1 A. Labor, material, and equipment rates were adjusted to locations in the
2 Cardinal operating footprint utilizing a City Cost Index Adjustment Factor
3 (“CCI”) developed within the project management cost estimating software
4 package. For the TDC estimate, a City Cost Index Adjustment Factor of
5 0.918 was utilized to take into consideration the same 3 applicable Cardinal
6 market locations in North Carolina available within the software package.
7 *See* Exhibit No. CPC-0005, TDC Workpapers, page 32, “City Cost Index
8 Factor Determination” spreadsheet.

9 **Q. You mentioned a City Cost Index Adjustment Factor. Can you please**
10 **further explain?**

11 A. The City Cost Index Adjustment Factor is a multiplier used to adjust the
12 original estimated costs to reflect the market location in which Cardinal
13 operates. In this case, a City Cost Index Adjustment Factor of 0.918 was
14 utilized to take into consideration the same 3 applicable Cardinal market
15 locations in North Carolina and was applied to each cost estimate to obtain a
16 representative cost estimate dollar amount for the assets in that market, or
17 location, where Cardinal facilities are owned and operated. *See* Ex. No.
18 CPC-0005, TDC Workpapers, page 2, “Cost Estimate Summary”
19 spreadsheet.

20 **K. Cardinal Transmission Facilities**

21 **Q. What are the tasks included in your Cardinal transmission TDC**

1 **estimate?**

2 A. I estimate that the work to retire Cardinal's transmission plant would include
3 the following tasks:

- 4 a. Clean and purge system of hydrocarbons;
- 5 b. Abandonment in place;
- 6 c. Road crossing abandonment;
- 7 d. Remove meter stations;
- 8 e. Remove compressor station;
- 9 f. Remove cathodic protection facilities;
- 10 g. Remove pipeline ROW markers;
- 11 h. Remove taps;
- 12 i. Remove mainline valves; and,
- 13 j. Restore all sites.

14 These tasks are predicated on using the most economical method of
15 retirement compatible with a sample of Cardinal's ROW agreements,
16 environmental considerations, DOT minimum safety regulations, and Corps
17 of Engineers' regulations pertaining to navigable waters and dredge and fill
18 permits.

19 **a. Clean and Purge System of Hydrocarbons**

20 **Q. Please explain what steps Cardinal would take to clean and purge its**
21 **transmission pipelines.**

1 A. An abandoned pipeline is a pipeline that is permanently removed from
2 service, physically separated from its supply source, and is no longer
3 maintained. The abandonment of pipeline facilities includes the safe
4 disconnection from an operating pipeline system, purging of combustibles,
5 pigging and sealing abandoned facilities left in place to minimize safety and
6 environmental hazards. These costs and tasks are detailed in the TDC
7 Workpapers, Exhibit No. CPC-0005, and Cardinal's Supporting Documents,
8 Exhibit No. CPC-0006.

9 **b. ABANDONMENT IN PLACE**

10 **Q. How did you estimate the cost to abandon in place Cardinal's**
11 **transmission pipelines?**

12 A. Based on my experience as well as referencing Cardinal's Supporting
13 Documents, Exhibit No. CPC-0006, I developed estimates to purge, clean,
14 cut and cap approximately 105 miles of Cardinal transmission pipeline. As
15 further detailed in Exhibit No. CPC-0005, TDC Workpapers, page 3, I
16 estimated that this will cost \$41,443 per mile for pipe less than 24 inches in
17 diameter. It should be noted these costs are well within the industry expert
18 quote of \$35,000 (approximately \$41,000 in 2021 dollars) per mile for a
19 twenty-four inch pipe, as stated in the October 31, 2013 RBN Energy LLC
20 article, "*WOO-PIG-SOOIE*"-*The Business of Pipeline Integrity II*, by Callie

1 Mitchell.⁸ Please see Exhibit No. CPC-0006, Supporting Documents, page
2 30.

3 **c. REMOVAL OF PIPELINE FACILITIES**

4 **Q. How many miles of pipeline did you estimate would be removed entirely?**

5 A. Approximately 0.3 miles.

6 **Q. What is the basis in your TDC estimate for the complete removal of the**
7 **0.3 miles of Cardinal's transmission pipeline?**

8 A. Cardinal personnel estimate that approximately 0.26% percent of Cardinal
9 transmission pipeline would need to be removed upon abandonment based
10 on its ROW agreements and permits. 0.26% percent of 105 miles of pipeline
11 is approximately 0.3 miles.

12 **Q. How did you estimate the cost to remove Cardinal's Transmission**
13 **pipelines?**

14 A. I estimated the cost to excavate and remove the pipeline on a per-mile basis
15 at \$96,404 and \$201,377, respectively. I then estimated the cost per mile to
16 backfill and restore the area disturbed to its original condition at
17 \$117,728 and \$10,769 per mile respectively, as summarized on page 2 of the
18 TDC Workpapers, Exhibit No. CPC-0005, as well as detailed on pages 4-7.

⁸ Callie Mitchell, RBN Energy, Inc., "Wooo-PIG-SOOIE!" – *The Business of Pipeline Integrity* (Oct. 3, 2013), <https://rbnenergy.com/woo-pig-sooie-the-business-of-pipeline-integrity>.

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1 **e. Meter Station Retirement**

2 **Q. What is the order of operation underlying your meter station removal**
3 **estimates?**

4 A. There are six steps that will be undertaken to remove meter stations and
5 underlie my estimate. First, miscellaneous surface material and fencing
6 would be removed to make the site ready for demolition work. Second,
7 valves and yard piping would be removed. This work involves excavation
8 down three feet, cutting and capping, lifting, and hauling. Third, station
9 equipment would be disconnected, lifted, and stockpiled for transportation to
10 a salvage yard. Fourth, buildings would be demolished, and material
11 transported to a salvage yard. Fifth, pavement, gravel and unsuitable
12 materials would be removed and hauled from the site, and the site would then
13 be graded. Finally, the site would be restored by backfilling, grading, placing
14 topsoil, seeding and fertilizing.

15 **Q. How did you develop Cardinal's meter station removal estimates?**

16 A. Cardinal has 7 meter stations throughout its transmission system. First, an
17 MTO was performed to determine the estimated quantity of materials to be
18 removed from the meter station plot plan and standard detail. Second, I
19 estimated the tasks, crew, time, equipment and labor necessary to retire each
20 category of meter station material based on the quantities generated from the
21 MTO. Third, I estimated the costs for the crew and equipment, as shown in

1 Exhibit No. CPC-0005, TDC Workpapers, pages 12-20. In summary, the
2 total cost to decommission Cardinal's small, medium and large Transmission
3 meter station facilities are estimated at \$846,264, as shown in Exhibit No.
4 CPC-0005, TDC Workpapers, page 2, "Cost Estimate Summary"
5 spreadsheet.

6 **f. Compressor Station Retirement**

7 **Q. What is the order of operation underlying your transmission**
8 **compressor station removal estimates?**

9 A. There are seven steps that will be undertaken to remove the compressor
10 stations and underlie my estimate. First, miscellaneous surface material and
11 fencing would be removed to make the site ready for demolition work.
12 Second, valves, blowdowns, and yard piping would be removed. This work
13 involves excavation down three feet, cutting and capping, lifting, and hauling.
14 Third, station equipment would be disconnected, lifted, and stockpiled for
15 transportation to a salvage yard. Fourth, buildings would be demolished, and
16 material transported to a salvage yard. Fifth, compressor blocks and concrete
17 slabs would be broken up and removed to three feet below ground surface.
18 This work also involves excavation, cutting, lifting, and hauling. Sixth,
19 pavement, gravel, and unsuitable materials would be removed and hauled
20 from the site, and the site would be graded. Seventh, and finally, the site

1 would be restored by backfilling, grading, placing topsoil, seeding, and
2 fertilizing.

3 **Q. How did you develop Cardinal's Transmission compressor station**
4 **removal estimates?**

5 A. I utilized a three-phase cost estimating approach by grouping tasks into the
6 following criteria: (1) surface material, (2) subsurface material, and
7 (3) restoration. The quantity of material to be removed from compressor
8 station locations were derived from each compressor station plot plan and
9 standard detail MTOs (*See* Exhibit No. CPC-0005, TDC Workpapers,
10 "Material Takeoff Packet"). I then estimated the tasks, crew, time, equipment,
11 and labor necessary to retire each category of compressor station material
12 based on the quantities generated from the MTO. Finally, I estimated the
13 costs for the crew and equipment, as shown in Exhibit No. CPC-0005, TDC
14 Workpapers. In summary, the total adjusted cost to decommission Cardinal's
15 transmission compressor station facility along Cardinal's transmission line is
16 estimated to be \$3,009,260, as shown in, Exhibit No. CPC-0005, TDC
17 Workpapers, pages 21-25, and summarized on page 2, "Cost Estimate
18 Summary", spreadsheet.

19 **g. Cathodic Protection**

20 **Q. Please describe the decommissioning costs related to cathodic protection.**

1 A. Cathodic protection is necessary throughout the pipeline system in order to
2 preserve the pipe integrity by controlling the pipe corrosion through the use
3 of a power source and sacrificial anode. Terminally retiring this equipment
4 requires personnel experienced in electrical work to safely and efficiently
5 decommission the electrical system. Cardinal has a total of 15,077
6 transmission cathodic protection rectifiers and test sites throughout the
7 system to monitor the system integrity. The total cost to decommission
8 Cardinal's cathodic protection transmission facilities is estimated at \$35,680,
9 as shown in Exhibit No. CPC-0005, TDC Workpapers, pages 26-27, and
10 summarize on page 2, "Cost Estimate Summary" spreadsheet.

11 **h. ROW Markers**

12 **Q. Please describe the ROW marker decommissioning costs.**

13 A. To identify the location of buried pipelines within the ROWs, marker posts
14 are placed in the ground at intervals above the centerline of the pipeline, or
15 as close as possible. The ROW decommissioning process involves
16 excavating down approximately three feet, removing the marker, backfilling,
17 and seeding the disturbed site location. The Cardinal system has
18 approximately 1,330 ROW markers estimated to cost \$70,737, as shown in
19 Exhibit No. CPC-0005, TDC Workpapers, page 28, and summarized on page
20 2, "Cost Estimate Summary" spreadsheet.

1 **i. Tap Locations**

2 **Q. Please describe the decommissioning costs associated with tap locations.**

3 A. Tap locations tie into, or connect to, the existing mainline system. The
4 decommissioning process involves excavating down three feet, cutting and
5 capping, lifting, hauling, and site restoration. The Cardinal transmission
6 system has 44 tap locations estimated to cost \$257,865 to remove, as shown
7 in Exhibit No. CPC-0005, TDC Workpapers, page 29, and summarized on
8 page 2, "Cost Estimate Summary" spreadsheet.

9 **j. Mainline Valve Locations**

10 **Q. Please describe the decommissioning costs associated with mainline**
11 **valves.**

12 A. The Cardinal system has roughly 18 mainline valves that provide an
13 additional way of controlling flow on the mainline. The process of
14 decommissioning the mainline valves involves excavating down three feet,
15 cutting and capping, lifting, hauling, and site restoration. The cost associated
16 with these activities are estimated at \$178,370, as shown in Exhibit No. CPC-
17 0005, TDC Workpapers, page 30, and summarized on page 2, "Cost Estimate
18 Summary" spreadsheet.

19 **L. Construction Management Fees Associated with**
20 **Decommissioning**

21 **Q. How were CM expenses calculated for the cost estimate?**
22

1 A. CM is a professional service that provides a project's owner(s) with effective
2 management of the project's schedule, cost, quality, safety, scope, and function.

3 **Q. Did you rely upon any additional information for your CM fee?**

4 A. Yes. As I previously mentioned, I reviewed USACE publications *Cost-*
5 *Competitive Construction Management: A Review of Corps of Engineers*
6 *Construction Management Costs* and *U.S. Army Corps of Engineers Military*
7 *Construction Management Cost* regarding CM firm fees used to develop private-
8 sector costs as a percent of construction contract for providing construction
9 management services. See Ex. No. CPC-0006, TDC Supporting Documents, pages
10 23-26. The tables below are relevant excerpts from Exhibit No. CPC-0006 at 23.

TABLE C-7
SUMMARY OF CONSTRUCTION MANAGEMENT FEE
(As percent of construction contract)

Characteristic	Construction management fee			Number of projects	Number of companies
	25th	Median	75th		
Overall	2.9%	4.7%	7.6%	196	29
Size of company					
1 – 5	4.6	5.3	11.9	9	2
6 – 10	3.5	5.2	7.1	43	8
11 – 15	3.6	4.0	5.0	8	2
16 – 25	0.7	3.2	9.7	48	5
26 – 50	3.8	4.9	7.3	40	5
51 – 100	3.8	6.4	11.0	13	2
Over 100	2.0	4.5	6.7	35	5
Type of company					
General contractor (GC)	2.9	2.9	2.9	1	1
CM firm	2.2	4.6	8.0	113	13
Architect engineering firm (AE)	2.0	2.3	3.3	9	1
GC/CM	3.3	4.4	6.4	47	8
CM/AE	4.4	7.0	8.4	19	5
Other	3.2	4.8	11.7	7	1
Client base					
Government	2.3	4.8	7.4	71	11
Private sector	2.8	4.5	8.0	106	15
Mixed	3.6	5.0	6.7	19	3

Table C-6.
Summary of Construction Management Fee
(as a percentage of construction contract)

	CM fee			Number of projects	Number of companies
	25 th	Median	75 th		
Overall	3.5%	5.0%	7.1%	187	33*
Size of company (number of employees)					
1 – 5	2.4	5.0	6.6	21	4
6 – 10	4.5	5.9	10.5	29	5
11 – 15	4.6	6.0	8.1	17	5
16 – 25	4.0	4.8	5.5	24	4
26 – 50	3.6	4.9	7.5	33	6
51 – 100	4.6	5.4	9.6	12	2
101 – 150	2.6	6.8	10.3	6	1
151 – 500	4.2	5.7	9.1	16	2
Over 500	1.2	2.5	6.0	29	4
Type of company					
CM firm	3.7	5.0	7.2	106	20
GC/CM firm	4.5	5.1	8.6	30	5
A-E/CM firm	2.2	4.5	6.7	49	8
Client base					
Government	2.8	4.6	6.1	92	17
Private sector	3.6	5.0	8.3	42	9
Mixed	3.8	5.7	9.9	53	7

*Two companies did not provide fee information.

The information by the USACE clearly show that a 2.5 percent CM fee is lower than the median 4.6 percent and 5.0 percent of CM firm fees surveyed by USACE applied to construction projects. The estimate CM fee for Cardinal's facilities is \$616,676. See Ex. No. CPC-0005, TDC Workpapers, page 2, "Cost Estimate Summary" spreadsheet.

M. Contingency Costs

Q. What are contingency costs?

A. Establishing a budget is one of the first steps in planning a construction project.

1 However, there are always unforeseen issues, or items that arise where additional
2 work will be needed at a cost incremental to the cost estimates established for
3 specific tasks in the budget estimate. A contingency budget is money set aside to
4 cover these unexpected costs during the construction process. This money is on
5 reserve and not allocated to one area of the work. Unknown risks are a factor for
6 determining contingency. By identifying risks, you will better understand where
7 the contingency budget might go, which will elucidate how much you might need.
8 Examples of risks that contribute to a higher contingency cost during construction
9 include (1) the condition of material being removed, (2) market conditions for labor,
10 equipment and materials and their availability, (3) weather, and (4) seasonal delays
11 that impact scheduling. This is a critical component of the budget.

12 **Q. What is your contingency cost estimate and how was that developed?**

13 A. I estimate a conservative ten percent contingency. I base this ten percent
14 contingency estimate on (1) my construction experience, (2) Chapter 11,
15 Contingency, of the DOE's Cost Estimating Guide, and (3) delays due to weather.
16 My ten percent contingency costs for Cardinal total \$2,528,373. See Ex. No. CPC-
17 0005, TDC Workpapers, "Cost Estimate Summary" spreadsheets. My estimated
18 costs, based on this scope of work, are significantly lower than it would have been
19 had I assumed the use of union labor, installation of temporary access roads to
20 remote locations, and clean-up and removal of hazardous materials at M&R stations,
21 mainline facilities, and pipeline locations. Further, the contingency costs estimated
22 are well within the acceptable range of five percent to fifteen percent documented
23 within Chapter 11 of the *Cost Estimating Guide and Engineering and Design: Civil*

1 *Works Cost Engineering*, as well as below the fifteen percent used by Viking Gas
2 Transmission Company and Gas Transmission Northwest in FERC Docket Nos.
3 RP98-290-000 and RP06-407-000, respectively.

4 **N. Salvage Values**

5 **Q. Did you consider material salvage in your TDC estimate?**

6 A. Yes. I included gross salvage value allowances for equipment, buildings, valves,
7 and pipe. I followed the recommended construction and demolition debris
8 guidelines of FEMA's *Debris Estimating Filed Guide* that calculated gross salvage
9 weight in tons would be half the volume removed measured in cubic yards. I
10 estimated that the gross salvage value for equipment, buildings, valves, and pipe
11 would be \$168 per ton for steel based on Scrap Sales USA pricing, which translated
12 into a transmission total of \$656,244. *See* Ex. No. CPC-0005, TDC Workpapers,
13 page 2, "Cost Estimate Summary" spreadsheet.

14 **O. Total Estimated Retirement Cost and Conclusion**

15 **Q. Please describe how your TDC estimate is organized.**

16 A. My TDC estimate contains separate estimates of terminal decommissioning costs
17 and salvage value for Cardinal plant. Each of the estimates consists of three
18 sections, as detailed in each of the corresponding Exhibit No. CPC-0005, TDC
19 Workpapers, "Cost Estimate Summary" spreadsheet. The first section,
20 "Decommissioning Costs," details estimated costs by line-item of required tasks to
21 be performed during the terminal abandonment. The second section,
22 "Contingency," details contingency costs included in the TDC estimate, calculated
23 at ten percent of the base cost, plus CM fees. The third and final section, "Salvage,"

1 recognizes the gross salvage value of Cardinal's scrap, as applicable, at the time of
2 final abandonment.

3 **Q. What conclusions have you reached with respect to the TDC estimate for**
4 **Cardinal's facilities?**

5 A. The estimated and market adjusted total TDC costs and credits for abandonment,
6 removal, and restoration of the ROW for Cardinal's facilities in 2021 U.S. dollars
7 are \$27,155,857. *See* Ex. No. CPC-0005, TDC Workpapers, page 2, "Cost Estimate
8 Summary" spreadsheet.

9 **Q. How would you characterize the final Cardinal TDC estimate?**

10 A. My final TDC estimate of \$27,155,857 in 2021 U.S dollars for Cardinal's facilities
11 is conservative for several reasons. First, my TDC estimate is based upon
12 abandoning in place all underground pipe and crossings, but for 0.3 miles of pipe.
13 My estimated costs, based on this scope of work, are significantly lower than it
14 would have been had I assumed that complete removal and disposal of all
15 Cardinal's pipelines and crossings would be conducted rather than abandoning in
16 place. Second, it is assumed that all pipe is within five feet of the surface, negating
17 the use of trench boxes, engineered shoring, and additional excavation. Third, it is
18 assumed access roads are available to each site and that temporary access roads will
19 not need to be installed. Fourth, ROW costs were conservatively estimated based
20 upon removal or abandonment in place and do not account for unforeseen
21 compensation upon final restoration. For instance, in my experience, using sod
22 versus seed and straw can increase the cost of a typical restoration. However,
23 requirements to undertake more expensive sodding restoration are unknown at this

1 time. Finally, should hazardous material issues arise with respect to Cardinal's
2 M&R stations, mainline facilities, and pipelines, these costs are not specifically
3 identified and are not included in my TDC estimate.

4 **V. DEPRECIATION RATE RECOMMENDATIONS**

5 **Q. What is the basis for your depreciation rate recommendations?**

6 A. Once the groundwork of survivor curve analysis, average service life analysis,
7 economic life analysis, remaining economic life analysis, and plant balances have
8 been laid, the calculation of the depreciation rates is a fairly straight-forward
9 endeavor. The basic formula for deriving depreciation rates is to divide the net
10 plant by the remaining life to derive the annual expense, which is then divided by
11 the gross plant to derive the depreciation rate:

$$\frac{\text{Gross Plant} - \text{Accum. Res. For Depreciation}}{\text{Remaining Life}} = \text{Depreciation Rate}$$

Gross Plant

12 **Q. Please briefly describe the layout of your depreciation workpapers.**

13 A. The depreciation workpapers in Exhibit No. CPC-0003 lay out the theoretical
14 calculations that underlie the depreciation rate recommendations. The Workpapers
15 are divided into nine schedules.

- 16 • Schedule 1 reports the impact of existing and recommended depreciation
17 rates.
- 18 • Schedule 2 compares the existing and recommended depreciation rate
19 components.
- 20 • Schedule 3 reports the plant and reserve for depreciation by property
21 account.

- Schedule 4 reports the average plant in service.
- Schedule 5 reports the parameters that define the rate calculations.
- Schedule 6 calculates the average remaining lives.
- Schedule 7 shows the actual depreciation rate calculations and recommendations.
- Schedule 8 – 8f calculates the negative salvage rate on interim retirements.
- Schedule 9 Iowa curves sampling.

In sum, this study recommends the following composite depreciation rates:

Table No. 1 Recommended Depreciation Rates

Account No.	Account Name	Depreciation Rate
302	Intangible Plant – Franchises *	0.55%
303	Misc. Intangible Plant *	1.57%
365.11	Land	0.00%
365.12	Land Rights *	1.93%
365.2	Rights of Way *	1.97%
366.1	Compressor Station S & I	3.51%
366.2	M & R Station S & I	2.85%
367	Mains	2.50%
368	Compressor Station Equipment	2.94%
369	Meas & Reg Station Equipment	2.49%
390	Struct. & Impr. – Office Bldg *	10.00%
391	Office Furniture & Equipment	
-	OFF001- Tower Office Furn.&	10.00%
-	DPC001-Data Process & Comp. Equip.*	12.50%
-	DEV001-Developed Software*	6.67%
392.1	Transportation Equipment *	16.67%
394	Tools Shop & Garage Equipment	5.00%
396	Power Operated Equipment *	10.00%
397	Communication Equipment *	4.35%

*- Whole Life Rate.

- 1 **Q.** **Does this conclude your prepared Direct Testimony?**
- 2 **A.** Yes, it does.

**BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION**

DOCKET NO. G-39, SUBS 46 and 47

SETTLEMENT TESTIMONY OF

STEVEN R. FALL

ON BEHALF OF

CARDINAL PIPELINE COMPANY, LLC

July 5, 2022

OFFICIAL COPY

Jul 04 2022

**SETTLEMENT TESTIMONY OF
STEVEN R. FALL
ON BEHALF OF
CARDINAL PIPELINE COMPANY, LLC**

1 **Q.1 Please state your name and employer.**

2 A. My name is Steven R. Fall. I am a Vice President employed with the firm of Brown,
3 Williams, Moorhead & Quinn, Inc., an energy consulting firm providing thorough
4 analytical expertise and litigation support on behalf of clients across a wide range
5 of energy issues.

6 **Q.2 Did you previously file testimony in this proceeding?**

7 A. Yes. I filed prepared direct testimony (Exhibit No. CPC-0001) along with six
8 supporting exhibits (Exhibit Nos. CPC-0002 through CPC-0007) on behalf of
9 Cardinal Pipeline Company, LLC (“Cardinal”) in this proceeding. In my direct
10 testimony, I presented my recommendation regarding the proper and adequate
11 depreciation rates for Cardinal based on appropriate remaining life factors
12 applicable to the Cardinal natural gas pipeline system and an economic life. I also
13 recommended appropriate recovery rates for costs associated with annual plant
14 retirements between now and the 2050 truncation date. In addition, I recommended
15 recovery rates for the costs associated with the terminal decommissioning, removal,
16 and rehabilitation of the pipeline right of way upon the final abandonment of the
17 pipeline system based on the Terminal Decommissioning Study performed, as
18 submitted to the North Carolina Utilities Commission on October 26, 2021 in
19 Docket No. G-39, Sub 46, which I understand has been consolidated with
20 Cardinal’s March 15, 2022 general rate case in Docket No. G-39, Sub 47.

1 **Q.3 What is the purpose of your settlement testimony?**

2 A. I am herewith providing settlement testimony on behalf of Cardinal. The purpose
3 of this settlement testimony is to explain my support for the Settlement Agreement
4 and Stipulation (“Stipulation”) filed in this proceeding on July 5, 2022 by Cardinal,
5 the Public Staff - North Carolina Utilities Commission (“Public Staff”), and
6 Piedmont Natural Gas Company, Inc. (collectively, “Stipulating Parties”), which
7 resolves all issues between all of the Stipulating Parties in this general rate case
8 proceeding. My testimony addresses the agreed-upon depreciation rates, the
9 agreed-upon recovery rates for costs associated with annual plant retirements, and
10 the agreed-upon recovery rates for the costs associated with the terminal
11 decommissioning, removal, and rehabilitation of the pipeline right of way upon the
12 final abandonment of the pipeline system, i.e., negative salvage rates.

13 **Q.4 Are you familiar with the terms of the Stipulation as it relates to Cardinal’s**
14 **depreciation rates, recovery rates for costs associated with annual plant**
15 **retirements, and negative salvage rates?**

16 Yes. I understand that the Stipulating Parties have agreed to adopt the
17 recommended depreciation rates, recovery rates for costs associated with annual
18 plant retirements, and negative salvage rates as set forth in the direct testimony of
19 Public Staff witness Ms. Roxie McCullar submitted in this proceeding.

20 **Q.5 Do you support Cardinal’s decision to agree to the agreed-upon depreciation**
21 **rates, recovery rates for costs associated with annual plant retirements, and**
22 **negative salvage rates set forth in the Stipulation?**

23 A. Yes, I do. I recognize that the Stipulation represents the outcome of negotiations
24 among the Stipulating Parties regarding many otherwise contested issues. I
25 understand that Cardinal has determined that the terms of the Stipulation, including

1 the agreed-to depreciation rates, recovery rates for costs associated with annual
2 plant retirements, and negative salvage rates represent a reasonable resolution of
3 the issues in this proceeding. I understand and respect that determination.

4 **Q.6 What is your position regarding the agreed-upon depreciation rates, recovery**
5 **rates for costs associated with annual plant retirements, and negative salvage**
6 **rates set forth in the Stipulation?**

7 A. The agreed-upon depreciation rates, recovery rates for costs associated with annual
8 plant retirements, and negative salvage rates set forth in the Stipulation are
9 essentially equivalent to the results that I presented and supported in my direct
10 testimony. Ms. McCullar and I have calculated our recommended rates using
11 essentially the same approach, albeit with a difference in our view of how estimated
12 future additions should be reflected. It remains my position that in a fully litigated
13 proceeding, the depreciation rates, recovery rates for costs associated with annual
14 plant retirements, and negative salvage rates that I presented and supported in my
15 direct testimony are reasonable. Nonetheless, I recognize the benefits associated
16 with the decision to enter into the Stipulation and as such, it is my view that the use
17 of the agreed-upon depreciation rates, recovery rates for costs associated with
18 annual plant retirements, and negative salvage rates set forth in the Stipulation are
19 a reasonable resolution of this issue.

20 **Q.7 Does this conclude your Settlement Testimony?**

21 A. Yes, it does.

1 COMMISSIONER KEMERAIT: And the Public
2 Staff, do you have any motion to make on the
3 record, please?

4 MS. HOLT: Yes. We move the admission
5 of the prefiled direct testimony of Public Staff
6 witness Roxie McCullar, consisting of eight pages
7 and an appendix, and we move the admission of
8 Ms. McCullar's Exhibit RMMM -- RMM-1.

9 COMMISSIONER KEMERAIT: And, Ms. Holt,
10 your motion is allowed.

11 (McCullar Direct Exhibit RMM-1 was
12 admitted into evidence.)

13 (Whereupon, the prefiled direct
14 testimony and Appendix A of
15 Roxie McCullar was copied into the
16 record as if given orally from the
17 stand.)
18
19
20
21
22
23
24

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. G-39, SUB 46

DOCKET NO. G-39, SUB 47

DOCKET NO. G-39, SUB 46)

In the Matter of)
 Cardinal Pipeline Company, LLC)
 Depreciation Rate Study as of)
 December 31, 2020)

DOCKET NO. G-39, SUB 47)

In the Matter of)
 Application of Cardinal Pipeline)
 Company, LLC for an Adjustment)
 in its Rates and Charges)

TESTIMONY OF
 ROXIE MCCULLAR
 ON BEHALF OF
 THE PUBLIC STAFF –
 NORTH CAROLINA
 UTILITIES COMMISSION

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BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. G-39, SUB 46
DOCKET NO. G-39, SUB 47

TESTIMONY OF ROXIE MCCULLAR

ON BEHALF OF THE PUBLIC STAFF
NORTH CAROLINA UTILITIES COMMISSION

June 10, 2022

1 I. Introduction

2 Q. PLEASE STATE YOUR NAME, PRESENT OCCUPATION, AND
3 BUSINESS ADDRESS.

4 A. My name is Roxie McCullar. Since 1997, I have been employed with
5 the firm of William Dunkel and Associates and have regularly
6 provided consulting services in regulatory proceedings throughout
7 the country. My business address is 8625 Farmington Cemetery
8 Road, Pleasant Plains, Illinois 62677.

9 Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND
10 PROFESSIONAL BACKGROUND.

11 A. I have over 20 years of experience consulting and testifying in
12 regulatory rate cases and have addressed depreciation rate issues
13 in numerous jurisdictions nationwide. I am a Certified Public
14 Accountant licensed in the state of Illinois. I am a Certified
15 Depreciation Professional through the Society of Depreciation

1 Professionals. I received my Master of Arts degree in Accounting
2 from the University of Illinois in Springfield. I received my Bachelor
3 of Science degree in Mathematics from Illinois State University in
4 Normal.

5 **Q. HAVE YOU PREPARED AN EXHIBIT THAT DESCRIBES YOUR**
6 **QUALIFICATIONS?**

7 A. Yes. My qualifications and previous experiences are shown on
8 Appendix A.

9 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING?**

10 A. I am testifying on behalf of the Public Staff of the North Carolina
11 Utilities Commission ("Public Staff").

12 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

13 A. The purpose of my testimony is to address certain depreciation-
14 related issues presented in the testimony and filings of Cardinal
15 Pipeline Company, LLC ("Cardinal Pipeline" or "Company") in this
16 proceeding.

17 **Q. CAN YOU SUMMARIZE YOUR RECOMMENDATIONS?**

18 A. As discussed, and supported in this testimony, I recommend the
19 necessary adjustment to exclude the estimated future additions from
20 the life span depreciation rate calculations used by Cardinal Pipeline
21 in this proceeding.

1 **II. Life Span Depreciation Rate Calculation**

2 **Q. PLEASE EXPLAIN WHY THE LIFE SPAN METHOD OF**
3 **CALCULATING DEPRECIATION RATES IS BEING USED IN THIS**
4 **PROCEEDING.**

5 A. The Company's proposed depreciation rates assume that the current
6 Plant in Service amounts retire prior to 2050. As stated in response
7 to discovery:

8 The ARL percentage calculated is meant to capture all
9 the December 31, 2021, Plant in Service dollars prior
10 to the terminal date of 2050.¹

11 Since the Company assumes the terminal retirement date of 2050
12 for all the current Plant in Service dollars, the life span calculation
13 method is used. The life span calculation assumes all assets in an
14 account are expected to retire prior to a specific date.

15 The authoritative depreciation text *Public Utility Depreciation*
16 *Practices* explains:

17 A life span group contains units that will concurrently
18 retire in a specific number of years after placement. For
19 life span groups, there may be interim additions and
20 retirements; however, all plant will be subject to a final
21 retirement. Unlike mass property groups, life span
22 groups often contain a small number of large units,
23 such as an electric power generation unit or a
24 telephone central office.²

¹ Cardinal Pipeline Response to Public Staff Data Request No. 12-1-e. "ARL" refers to the Average Remaining Life calculations included in the Company filed depreciation study.

² Page 141, *Public Utility Depreciation Practices* published by the National Association of Regulatory Utility Commissioners (NARUC), 1996.

1 Q. WHAT IS THE MOST SIGNIFICANT ASSUMPTION IN THE
2 CALCULATION OF THE DEPRECIATION RATES IN THIS
3 PROCEEDING.

4 A. The assumption that the current Plant in Service dollars will all retire
5 prior to 2050 is the most significant assumption in the calculation of
6 the depreciation rates in this proceeding.

7 As is pointed out in an authoritative depreciation text: "the final
8 retirement date is the most important factor in the depreciation of a
9 depreciation rate for life span properties."³

10 III. Exclusion of Estimated Future Additions in the Depreciation
11 Rate Calculation

12 Q. PLEASE DISCUSS THE CORRECTION TO THE CALCULATION
13 OF THE PROPOSED DEPRECIATION RATES THAT YOU
14 SUPPORT.

15 A. Cardinal Pipeline's proposed depreciation rates are improperly
16 calculated using estimated future additions.⁴ The use of estimated
17 future additions is contrary to proper depreciation rate calculation
18 methods.

³ *Id.* at 146.

⁴ Exhibit No. CPC-0003 page 6.

1 An authoritative depreciation text makes it very clear that it is
2 improper to include estimated future interim additions in the
3 depreciation rate calculation.

4 NARUC's text *Public Utilities Depreciation Practices*, discussing the
5 life span method, states:

6 Appropriate estimates must be made for such interim
7 retirements; however, *interim additions are not*
8 *considered in the depreciation base or rate until they*
9 *occur*.⁵ (emphasis added)

10 NARUC's *Public Utilities Depreciation Practices* glossary defines:

11 Interim Additions: As used in life span analysis,
12 additions made subsequent to the year in which the
13 unit was placed in service. *Interim additions are not*
14 *considered in the depreciation computation until they*
15 *occur*.⁶ (emphasis added)

16 When using the life span method of calculating depreciation rates,
17 the expected year of final retirement and the expected rate of interim
18 retirements are the factors considered. An interim retirement is a
19 retirement of part of the unit at the location prior to the final retirement
20 of the entire unit.⁷

21 NARUC's *Public Utilities Depreciation Practices* glossary defines:

22 Interim Retirements: As used in life span analysis,
23 retirements of component parts of a major structure

⁵ Page 142, *Public Utility Depreciation Practices* published by the National Association of Regulatory Utility Commissioners (NARUC), 1996.

⁶ *id.* at 321.

⁷ *id.* at 146.

1 prior to the complete removal of the retirement unit
2 from service.⁸

3 **Q. PLEASE DESCRIBE YOUR EXHIBIT RMM-2.**

4 A. Exhibit RMM-2 contains the calculations of the Public Staff's
5 proposed depreciation rates for the Company's Natural Gas Plant in
6 North Carolina, which properly exclude estimated future additions.

7 **IV. Conclusion**

8 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.**

9 A. For the reasons stated above, I recommend that the Public Staff's
10 proposed depreciation rates shown on Exhibit RMM-1 be approved
11 for Cardinal Pipeline Natural Gas Plant in North Carolina.

12 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

13 A. Yes.

⁸ *id.* at 321.

Roxie McCullar, CPA, CDP
8625 Farmington Cemetery Road
Pleasant Plains, IL

Roxie McCullar is a regulatory consultant, licensed Certified Public Accountant in the state of Illinois, and a Certified Depreciation Professional through the Society of Depreciation Professionals. She is a member of the American Institute of Certified Public Accountants, the Illinois CPA Society, and the Society of Depreciation Professionals. Ms. McCullar has received her Master of Arts degree in Accounting from the University of Illinois-Springfield as well as her Bachelor of Science degree in Mathematics from Illinois State University. Ms. McCullar has 20 years of experience as a regulatory consultant for William Dunkel and Associates. In that time, she has filed testimony in over 50 state regulatory proceedings on depreciation issues and cost allocation for universal service and has assisted Mr. Dunkel in numerous other proceedings.

Education

Master of Arts in Accounting from the University of Illinois-Springfield, Springfield, Illinois

12 hours of Business and Management classes at Benedictine University-Springfield College in Illinois, Springfield, Illinois

27 hours of Graduate Studies in Mathematics at Illinois State University, Normal, Illinois

Completed Depreciation Fundamentals training course offered by the Society of Depreciation Professionals

Relevant Coursework:

- | | |
|---|--|
| - Calculus | - Discrete Mathematics |
| - Number Theory | - Mathematical Statistics |
| - Linear Programming | - Differential Equations |
| - Finite Sampling | - Statistics for Business and Economics |
| - Introduction to Micro Economics | - Introduction to Macro Economics |
| - Principles of MIS | - Introduction to Financial Accounting |
| - Introduction to Managerial Accounting | - Intermediate Managerial Accounting |
| - Intermediate Financial Accounting I | - Intermediate Financial Accounting II |
| - Advanced Financial Accounting | - Auditing Concepts/Responsibilities |
| - Accounting Information Systems | - Federal Income Tax |
| - Fraud Forensic Accounting | - Accounting for Government & Non-Profit |
| - Commercial Law | - Advanced Utilities Regulation |
| - Advanced Auditing | - Advanced Corp & Partnership Taxation |

Current Position: Consultant at William Dunkel and Associates

Participation in the proceedings below included some or all of the following:

Developing analyses, preparing data requests, analyzing issues, writing draft testimony, preparing data responses, preparing draft questions for cross examination, drafting briefs, and developing various quantitative models.

Previous Experience of Roxie McCullar

Year	State	Commission	Docket	Company	Description	On Behalf of
2022	Alaska	Regulatory Commission of Alaska (RCA)	U-21-070/U-21-071	Golden Heart Utilities and College Utilities Corporation	Water and Wastewater Depreciation Issues	Attorney General's Regulatory Affairs and Public Advocacy Section (RAPA)
2021	Kansas	Kansas Corporation Commission	22-CRKT-087-KSF	Craw-Kan Telephone Cooperative, Inc.	Non-Regulated Allocations, State Allocations, Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2021	North Carolina	North Carolina Utilities Commission	G-5, SUB 632	Public Service Company of North Carolina	Natural Gas Depreciation Issues	Public Staff - North Carolina Utilities Commission
2021	Kansas	Kansas Corporation Commission	21-BHCG-418-RTS	Black Hills Energy	Natural Gas Depreciation Issues	Kansas Corporation Commission Staff
2021	Florida	Florida Public Service Commission	20210015-EI	Florida Power & Light Company	Electric Depreciation Issues	Office of Public Counsel
2020	DC	District of Columbia Public Service Commission	FC1137	Washington Gas & Light	Natural Gas Depreciation Issues	District of Columbia Public Service Commission
2020	DC	District of Columbia Public Service Commission	FC1156	Potomac Electric Power Company	Electric Depreciation Issues	District of Columbia Public Service Commission
2020	North Carolina	North Carolina Utilities Commission	E-2, SUB 1219	Duke Energy Progress, LLC	Electric Depreciation Issues	Public Staff - North Carolina Utilities Commission
2020	Kansas	Kansas Corporation Commission	20-BLVT-218-KSF	Blue Valley Tele-Communications, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2020	Utah	Public Service Commission of Utah	18-035-36	Rocket Mountain Power	Electric Depreciation Issues	Division of Public Utilities
2020	North Carolina	North Carolina Utilities Commission	E-7, SUB 1214	Duke Energy Carolinas, LLC	Electric Depreciation Issues	Public Staff - North Carolina Utilities Commission
2019	Kansas	Kansas Corporation Commission	20-UTAT-032-KSF	United Telephone Association	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff

Previous Experience of Roxie McCullar

Year	State	Commission	Docket	Company	Description	On Behalf of
2019	Kansas	Kansas Corporation Commission	19-ATMG-525-RTS	Amos Energy	Natural Gas Depreciation Issues	Kansas Corporation Commission Staff
2019	Kansas	Kansas Corporation Commission	19-GNBT-505-KSF	Golden Belt Telephone Association	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2019	Arizona	Arizona Corporation Commission	E-01933A-19-0028	Tucson Electric Power Company	Electric Depreciation Issues	The Utilities Division Staff Arizona Corporation Commission
2019	North Carolina	North Carolina Utilities Commission	E-22, SUB 562	Dominion Energy North Carolina	Electric Depreciation Issues	Public Staff - North Carolina Utilities Commission
2019	Utah	Public Service Commission of Utah	19-057-03	Dominion Energy Utah	Natural Gas Depreciation Issues	Division of Public Utilities
2019	Kansas	Kansas Corporation Commission	19-EPDE-223-RTS	Empire District Electric Company	Electric Depreciation Issues	Kansas Corporation Commission Staff
2019	Arizona	Arizona Corporation Commission	T-03214A-17-0305	Citizens Telecommunications Company	Arizona Universal Service Fund	The Utilities Division Staff Arizona Corporation Commission
2018	Kansas	Kansas Corporation Commission	18-KGSG-560-RTS	Kansas Gas Service	Natural Gas Depreciation Issues	Kansas Corporation Commission Staff
2018	Kansas	Kansas Corporation Commission	18-KCPE-480-RTS	Kansas City Power & Light Company	Electric Depreciation Issues	Kansas Corporation Commission Staff
2018	Rhode Island	Rhode Island and Providence Plantations Public Utilities Commission	4800	SUEZ Water	Water Depreciation Issues	Division of Public Utilities and Carriers
2018	Rhode Island	Rhode Island and Providence Plantations Public Utilities Commission	4770	Narragansett Electric Company	Electric & Natural Gas Depreciation Issues	Division of Public Utilities and Carriers
2018	North Carolina	North Carolina Utilities Commission	E-7, SUB 1146	Duke Energy Carolinas, LLC	Electric Depreciation Issues	Public Staff - North Carolina Utilities Commission

Previous Experience of Roxie McCullar

Year	State	Commission	Docket	Company	Description	On Behalf of
2017	DC	District of Columbia Public Service Commission	FC1150	Potomac Electric Power Company	Electric Depreciation Issues	District of Columbia Public Service Commission
2017	Kansas	Kansas Corporation Commission	17-RNBT-555-KSF	Rainbow Telecommunications Association, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2017	North Carolina	North Carolina Utilities Commission	E-2, SUB 1142	Duke Energy Progress, LLC	Electric Depreciation Issues	Public Staff - North Carolina Utilities Commission
2017	Washington	Washington Utilities & Transportation Commission	UE-170033 & UG-170034	Puget Sound Energy	Electric & Natural Gas Depreciation Issues	Washington State Office of the Attorney General, Public Counsel Unit
2017	Florida	Florida Public Service Commission	160186-EI & 160170-EI	Gulf Power Company	Electric Depreciation Issues	The Citizens of the State of Florida
2016	Kansas	Kansas Corporation Commission	16-KGSG-491-RTS	Kansas Gas Service	Natural Gas Depreciation Issues	Kansas Corporation Commission Staff
2016	DC	District of Columbia Public Service Commission	FC1139	Potomac Electric Power Company	Depreciation Issues	District of Columbia Public Service Commission
2016	Arizona	Arizona Corporation Commission	E-01933A-15-0239 & E-01933A-15-0322	Tucson Electric Power Company	Electric Depreciation Issues	The Utilities Division Staff Arizona Corporation Commission
2016	Georgia	Georgia Public Service Commission	40161	Georgia Power Company	Addressed Depreciation Issues	Georgia Public Service Commission Public Interest Advocacy Staff
2016	DC	District of Columbia Public Service Commission	FC1137	Washington Gas & Light	Depreciation Issues	District of Columbia Public Service Commission
2015	Kansas	Kansas Corporation Commission	16-ATMG-079-RTS	Amos Energy	Natural Gas Depreciation Issues	Kansas Corporation Commission Staff
2015	Kansas	Kansas Corporation Commission	15-TWVT-213-AUD	Twin Valley Telephone, Inc.	Cost Study Issues, Allocation of FTTH Equipment, & Support Fund Adjustments	Kansas Corporation Commission Staff

Previous Experience of Roxie McCullar

Year	State	Commission	Docket	Company	Description	On Behalf of
2015	Kansas	Kansas Corporation Commission	15-KCPE-116-RTS	Kansas City Power & Light Company	Electric Depreciation Issues	Kansas Corporation Commission Staff
2015	Kansas	Kansas Corporation Commission	15-MRGT-097-AUD	Moundridge Telephone Company, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2014	Kansas	Kansas Corporation Commission	14-S&TT-525-KSF	S&T Telephone Cooperative Association, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2014	Kansas	Kansas Corporation Commission	14-WTCT-142-KSF	Wamego Telecommunications Company, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2013	Kansas	Kansas Corporation Commission	13-PLTT-678-KSF	Peoples Telecommunications, LLC	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2013	New Jersey	State of New Jersey Board of Public Utilities	BPU ER12121071	Atlantic City Electric Company	Electric Depreciation Issues	New Jersey Rate Counsel
2013	Kansas	Kansas Corporation Commission	13-JBNT-437-KSF	J.B.N. Telephone Company, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2013	Kansas	Kansas Corporation Commission	13-ZENT-065-AUD	Zenda Telephone Company, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2013	DC	District of Columbia Public Service Commission	FC1103	Potomac Electric Power Company	Depreciation Issues	District of Columbia Public Service Commission
2012	Kansas	Kansas Corporation Commission	12-LHPT-875-AUD	LaHarpe Telephone Company, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2012	Kansas	Kansas Corporation Commission	12-GRHT-633-KSF	Gorham Telephone Company	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2012	Kansas	Kansas Corporation Commission	12-S&TT-234-KSF	S&T Telephone Cooperative Association, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff

Previous Experience of Roxie McCullar

Year	State	Commission	Docket	Company	Description	On Behalf of
2011	DC	District of Columbia Public Service Commission	FC1093	Washington Gas & Light	Depreciation Issues	District of Columbia Public Service Commission
2011	Kansas	Kansas Corporation Commission	11-CNHT-659-KSF	Cunningham Telephone Company, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2011	Kansas	Kansas Corporation Commission	11-PNRT-315-KSF	Pioneer Telephone Association	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2010	Kansas	Kansas Corporation Commission	10-HVDT-288-KSF	Haviland Telephone Company, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2009	Kansas	Kansas Corporation Commission	09-BLVT-913-KSF	Blue Valley Tele-Communications, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2009	DC	District of Columbia Public Service Commission	FC1076	Potomac Electric Power Company	Depreciation Issues	District of Columbia Public Service Commission
2008	Kansas	Kansas Corporation Commission	09-MTLT-091-KSF	Mutual Telephone Company	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2007	Kansas	Kansas Corporation Commission	08-MRGT-221-KSF	Moundridge Telephone Company	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2007	Kansas	Kansas Corporation Commission	07-PLTT-1289-AUD	Peoples Telecommunications, LLC	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2007	Kansas	Kansas Corporation Commission	07-MDTT-195-AUD	Madison Telephone, LLC	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2007	Kansas	Kansas Corporation Commission	06-RNBT-1322-AUD	Rainbow Telecommunications Assn., Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff

Previous Experience of Roxie McCullar

Year	State	Commission	Docket	Company	Description	On Behalf of
2006	Kansas	Kansas Corporation Commission	06-WCTC-1020-AUD	Wamego Telecommunications Company, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2006	Kansas	Kansas Corporation Commission	06-H&BT-1007-AUD	H&B Communications, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2006	Kansas	Kansas Corporation Commission	06-ELKT-365-AUD	Elkhart Telephone Company, Inc.	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2005	Kansas	Kansas Corporation Commission	05-SCNT-1048-AUD	South Central Telephone Association, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2005	Utah	Public Service Commission of Utah	05-2302-01	Carbon/Emery Telecom, Inc.	Cost Study Issues & Depreciation Issues	Utah Committee of Consumer Services
2005	Kansas	Kansas Corporation Commission	05-TTHT-895-AUD	Total Communications, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2005	Maine	Public Utilities Commission of the State of Maine	2005-155	Verizon	Depreciation Issues	Office of Public Advocate
2005	Kansas	Kansas Corporation Commission	05-TRCT-607-KSF	Tri-County Telephone Association	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2005	Kansas	Kansas Corporation Commission	05-CNHT-020-AUD	Cunningham Telephone Company, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2005	Kansas	Kansas Corporation Commission	05-KOKT-060-AUD	KanOkla Telephone Association, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2004	Kansas	Kansas Corporation Commission	04-UTAT-690-AUD	United Telephone Association, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2004	Kansas	Kansas Corporation Commission	04-CGTT-679-RTS	Council Grove Telephone Company	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff

Previous Experience of Roxie McCullar

Year	State	Commission	Docket	Company	Description	On Behalf of
2004	Kansas	Kansas Corporation Commission	04-GNBT-130-AUD	Golden Belt Telephone Association	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2004	Kansas	Kansas Corporation Commission	03-TWVT-1031-AUD	Twin Valley Telephone, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2003	Kansas	Kansas Corporation Commission	03-HVDT-664-RTS	Haviland Telephone Company	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2003	Kansas	Kansas Corporation Commission	03-WHST-503-AUD	Wheat State Telephone Company, Inc.	Cost Study Issues & Support Fund Adjustments	Kansas Corporation Commission Staff
2003	Kansas	Kansas Corporation Commission	03-S&AT-160-AUD	S&A Telephone Company	Cost Study Issues	Kansas Corporation Commission Staff
2002	Kansas	Kansas Corporation Commission	02-JBNT-846-AUD	JBN Telephone Company	Cost Study Issues	Kansas Corporation Commission Staff
2002	Kansas	Kansas Corporation Commission	02-S&TT-390-AUD	S&T Telephone Cooperative Association, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2002	Kansas	Kansas Corporation Commission	02-BLVT-377-AUD	Blue Valley Telephone Company, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	01-PNRT-929-AUD	Pioneer Telephone Association, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	01-BSST-878-AUD	Bluestem Telephone Company	Cost Study Issues	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	01-SFLT-879-AUD	Sunflower Telephone Company, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	01-CRKT-713-AUD	Craw-Kan Telephone Cooperative, Inc.	Cost Study Issues	Kansas Corporation Commission Staff

Previous Experience of Roxie McCullar

Year	State	Commission	Docket	Company	Description	On Behalf of
2001	Kansas	Kansas Corporation Commission	01-RNBT-608-KSF	Rainbow Telecommunications Association	Cost Study Issues, Support Fund Adjustments	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	01-SNKT-544-AUD	Southern Kansas Telephone Company, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2001	Kansas	Kansas Corporation Commission	01-RRLT-518-KSF	Rural Telephone Service Company, Inc.	Cost Study Issues	Kansas Corporation Commission Staff
2000	Illinois	Illinois Commerce Commission	98-0252	Ameritech	Cost Study Issues	Government and Consumer Intervenors

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1 COMMISSIONER KEMERAIT: Are there any
2 other preliminary matters to discuss before we
3 begin with the evidentiary hearing?

4 (No response.)

5 COMMISSIONER KEMERAIT: Ms. Holt, you
6 may call your witnesses. I believe it's a panel.

7 MS. HOLT: The Public Staff calls as a
8 panel, Sonja Johnson and Neha Patel.

9 COMMISSIONER KEMERAIT: Ms. Holt, did
10 they have a summary that they are going to be
11 providing, or just answering Commission questions?

12 MS. HOLT: A summary or?

13 COMMISSIONER KEMERAIT: Just Commission
14 questions? Is Mr. Hinton going to be part of the
15 panel?

16 MS. HOLT: We are gonna call him
17 separately, but if you would like us to call him
18 now --

19 COMMISSIONER KEMERAIT: I think it would
20 be helpful to have all three of the witnesses --

21 MS. HOLT: Certainly.

22 COMMISSIONER KEMERAIT: -- at the table.
23 And we'll begin by swearing in the witnesses.

24 JOHN R. HINTON, SONJA R. JOHNSON, and NEHA PATEL,

1 having first been duly sworn, were examined

2 and testified as follows:

3 COMMISSIONER KEMERAIT: Okay. Thank
4 you. So the Commission has some questions related
5 to the settlement agreement and the stipulation
6 that was filed on July 5, 2022. And before I begin
7 with the Commission's questions, I wanted to give a
8 little bit of context about what we're especially
9 going to be trying to obtain some information
10 about.

11 And the first line of questions I think
12 is gonna be related -- directed more to Mr. Hinton,
13 and it relates to the rate of return on equity in
14 the settlement agreement of 9.55 percent. And we
15 did -- we did note -- okay.

16 Let me back up for a minute. Ms. Holt,
17 would you introduce your witnesses.

18 MS. HOLT: Certainly. Thank you.

19 DIRECT EXAMINATION BY MS. HOLT:

20 Q. I'm gonna begin with Ms. Patel, since you're
21 on the end.

22 Ms. Patel, please state your name, position,
23 and business address for the record.

24 A. (Neha Patel) Good afternoon. I'm Neha Patel

1 with Public Staff's energy division. My address is 430
2 North Salisbury Street, Raleigh, 27603, and I'm an
3 engineer with the Public Staff.

4 Q. Ms. Patel, on June 13, 2022, did you prefile
5 direct testimony consisting of seven pages and two
6 exhibits?

7 A. Yes, I did.

8 Q. And on June 17th, did you file corrections to
9 your Exhibits A and B?

10 A. Yes, I did.

11 Q. Do you have any other changes or corrections
12 to your prefiled testimony?

13 A. No, I do not.

14 Q. If I were to ask you the same questions
15 today, would your answers be the same?

16 A. Yes, they would.

17 MS. HOLT: Chair Kemeraid, I move that
18 Ms. Patel's direct testimony be copied into the
19 record as if given orally from the stand and that
20 her exhibits be identified as premarked.

21 COMMISSIONER KEMERAIT: Your motion is
22 allowed.

23 (Patel Exhibits A and B Corrected, were
24 identified as they were marked when

1 prefiled.)

2 (Whereupon, the prefiled direct
3 testimony and Appendix A of Neha Patel
4 was copied into the record as if given
5 orally from the stand.)
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BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. G-39, SUB 46
DOCKET NO. G-39, SUB 47

DOCKET NO. G-39, SUB 46)	
)	
In the Matter of)	
Cardinal Pipeline Company, LLC)	
Depreciation Rate Study as of)	
December 31, 2020	)	TESTIMONY OF
	)	NEHA PATEL
DOCKET NO. G-39, SUB 47	)	ON BEHALF OF
	)	THE PUBLIC STAFF –
In the Matter of	)	NORTH CAROLINA
Application of Cardinal Pipeline	)	UTILITIES COMMISSION
Company, LLC, for an Adjustment of its)	
Natural Gas Rates and Charges in)	
North Carolina)	
)	
)	

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

**DOCKET NO. G-39, SUB 46
DOCKET NO. G-39, SUB 47**

TESTIMONY OF NEHA PATEL

**ON BEHALF OF THE PUBLIC STAFF
NORTH CAROLINA UTILITIES COMMISSION**

JUNE 10, 2022

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND**
2 **PRESENT POSITION.**

3 A. My name is Neha Patel. My business address is 430 North Salisbury
4 Street, Dobbs Building, Raleigh, North Carolina. I am the Manager
5 of the Natural Gas Section of the Energy Division of the Public Staff
6 – North Carolina Utilities Commission (Public Staff).

7 **Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.**

8 A. My qualifications and duties are included in Appendix A.

9 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
10 **PROCEEDING?**

11 A. The purpose of my testimony is to provide the results of my
12 investigation into the application of Cardinal Pipeline Company, LLC
13 (Cardinal or Company) for an increase in its rates and charges in this
14 proceeding.

1 **Q. WHAT WERE YOUR AREAS OF INVESTIGATIVE**
2 **RESPONSIBILITY IN THIS CASE?**

3 A. My areas of investigation in this case include: (1) review of the
4 Company's billing determinants; (2) review of the zonal allocation of
5 costs; (3) evaluation of the Company's allocation of the cost of
6 service between Cardinal's two zones; (4) derivation of Cardinal's
7 rates; (5) evaluation of the Company's integrity management costs
8 and its request to place certain pipeline integrity costs in a deferred
9 account for proposed future collection; and (6) evaluation of the
10 Company's request for deferred treatment of certain cybersecurity
11 expenses.

12 **Q. PLEASE EXPLAIN THE EXISTING COST CLASSIFICATION,**
13 **ALLOCATION METHODOLOGIES AND THE RATE DESIGN.**

14 A. In this case, both the Public Staff and the Company have designed
15 transportation rates using the Straight-Fixed-Variable (SFV) rate
16 design that was approved by the Commission by Order issued on
17 November 6, 1997, in Docket No. G-39, Sub 0 (the Certificate
18 Docket). The SFV rate design basically assigns all fixed costs to the
19 reservation or demand rate and variable costs to the commodity rate.
20 All of Cardinal's costs in this docket are classified as fixed and are
21 recoverable through Cardinal's Zone 1 and Zone 2 demand or
22 reservation rates.

1 **Q. WHAT ARE THE PUBLIC STAFF’S RECOMMENDED RATES?**

2 **A.** Patel Exhibit A is the allocation of the Company’s cost of service by
3 zone using a rate base allocation with adjustments as recommended
4 by Public Staff witnesses Hinton, Johnson and McCullar.

5 Patel Exhibit B shows my derivation of the Public Staff’s
6 recommended rates. As mentioned earlier in my testimony, the
7 Public Staff is using the Commission’s approved SFV rate design
8 methodology, and this rate design incorporates that methodology.

9 The rates incorporate recommendations from Public Staff witnesses
10 Hinton, Johnson and McCullar.

11 **Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE COMPANY’S**
12 **REGULATORY ASSET TREATMENT FOR CERTAIN PIPELINE**
13 **INTEGRITY RELATED COSTS.**

14 **A.** As discussed by Company witness Miller,¹ pipeline operators are
15 required to perform integrity measures on its pipelines by following
16 the regulatory requirements imposed by the U.S. Department of
17 Transportation Pipeline and Hazardous Materials Safety
18 Administration (PHMSA) to ensure the safety and integrity of its
19 pipeline. These integrity measures are cyclical in nature, are based
20 on timing and intervals of prior assessments, and vary from year to

¹ Direct Testimony of Company witness Miller, pp. 20-21.

1 year.

2 In Cardinal's 2017 application for an adjustment in its rates and
3 charges, filed in Docket No. G-39, Sub 38, the Company requested
4 and received Commission approval to defer certain pipeline integrity
5 O&M expenses that were necessary for compliance with PHMSA
6 regulations and to ensure the safety and integrity of Cardinal's
7 pipeline. In 2018, Cardinal completed its assessment, and the
8 expenses incurred were placed in a deferred account for recovery in
9 future rates over a five-year period. The Company is set to perform
10 its next cyclic assessment in 2025 and is requesting Commission
11 approval to record its actual costs for the 2025 assessment in a
12 deferred account for proposed recovery in future rates. Cardinal
13 estimates the cost of the assessment to be approximately \$414,000.

14 As part of my investigation in this proceeding, I reviewed data
15 request responses received from the Company regarding its integrity
16 management O&M projects and associated costs incurred in 2018.

17 Based upon my review, I recommend that Cardinal be allowed to
18 collect its pipeline integrity expenses incurred in 2018 as authorized
19 by the Commission's order in Docket No. G-39, Sub 38. For the next
20 cyclic pipeline assessment scheduled to be performed in 2025, the
21 Company is proposing a similar accounting procedure.

22 While my area of investigation focused on the necessity of the

1 integrity measures, Public Staff accounting witness Johnson
2 discusses how these costs are accounted for.

3 **Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE COMPANY'S**
4 **REQUEST FOR DEFERRED TREATMENT OF CYBERSECURITY**
5 **COSTS.**

6 A. Witness Miller's testimony² addresses the need for hardening of
7 critical infrastructure against cybersecurity threats as mandated by
8 government agencies,³ which may potentially require replacement of
9 non-compliant equipment, as well as network segmentation activities
10 and multifactor authentication (MFA) software upgrades.

11 As part of this proceeding, and to be compliant with federal
12 mandates, the Company is requesting Commission approval to defer
13 O&M costs estimated to be from \$175,000 to \$1.2 million for
14 cybersecurity expenses.

15 Since these costs are estimates, Cardinal has proposed to place the
16 actual incurred costs in a deferred account for proposed recovery in
17 future rates. While the Public Staff recognizes the importance of
18 protecting critical assets from cybersecurity threats, I recommend
19 that Cardinal provide the Commission and Public Staff a report
20 showing the final program components and costs by discrete

² Direct Testimony of Company witness Miller, pp. 21-23.

³ Department of Homeland Security's TSA-Enhancing Pipeline Cybersecurity.

1 category before commencing the overall cybersecurity program,
2 particularly given the relative uncertainty of both the proposed
3 activities and associated costs.

4 While my area of investigation focused on the necessity of complying
5 with the federal cybersecurity mandates, Public Staff accounting
6 witness Johnson discusses how these costs are accounted for.

7 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

8 **A.** Yes, it does.

QUALIFICATIONS AND EXPERIENCE**NEHA PATEL**

I graduated from the University of Mumbai in 1995 with a Bachelor of Science degree in Electronic Engineering. I began working as a Utilities Engineer with the Natural Gas Division of the Public Staff in the spring of 2014. In 2020, I became Manager of the Natural Gas Section of the Energy Division.

I have worked on purchased gas cost adjustment procedures, tariff filings, customer utilization trackers, special contract review and analysis, weather normalization adjustments, customer complaint resolutions, integrity management riders, franchise exchange filings, compressed natural gas special contracts, peak day demand and capacity calculations, fuel and electric usage trackers, gas resellers, annual review of gas costs proceedings, renewable natural gas filings, cost of service studies, general rate case proceedings, and rate design.

1 Q. Ms. Patel, do you have a summary?

2 A. Yes, I do.

3 Q. Please read that.

4 A. The purpose of my testimony is to present the
5 Commission the Public Staff's position on the
6 following:

7 Cardinal Pipeline Company's billing
8 determinants; allocation of cost of service between
9 both of Cardinal's zones; rate design; pipeline
10 integrity management expenses; and proposed cyber
11 security expenses.

12 With respect to the billing determinants and
13 allocation of cost of service between both of
14 Cardinal's zones for the test year ending
15 December 21, 2021, I concluded that Cardinal has
16 accurately recorded its billing determinants, and I am
17 not proposing any changes to its cost-of-service
18 allocations or rate design methodology, both of which
19 were approved by the Commission in Docket No.
20 G-39, Sub 0.

21 I'm also providing testimony regarding
22 approval of Cardinal's pipeline integrity management
23 expenses, as well as the Public Staff's concerns
24 regarding the Company's request for its proposed cyber

1 security estimated expenses. Since these cyber
2 security costs are estimates, Cardinal has proposed to
3 place the actual incurred costs in a deferred account
4 for proposed recovery in future rates. While the
5 Public Staff recognizes the importance of protecting
6 critical assets from cyber security threats, the Public
7 Staff recommends that Cardinal provide the Commission
8 and the Public Staff a report showing the final program
9 components and costs by discrete category before
10 commencing the overall cyber security program. Public
11 Staff accounting witness Johnson discusses the
12 mechanism for this approval.

13 This concludes my summary.

14 Q. Thank you.

15 Now, Ms. Johnson, on June 13, 2022, did you
16 prefile direct testimony consisting of 11 pages, an
17 appendix, and one exhibit?

18 A. (Sonja Johnson) I did.

19 Q. Do you have any changes or corrections to
20 that testimony?

21 A. I do not.

22 Q. If I were to ask you the same questions
23 today, would your answers be the same?

24 A. Yes.

1 Q. On July 5, 2022, did you prefile settlement
2 testimony consisting of three pages and one exhibit?

3 A. Yes, I did.

4 Q. Do you have any changes or corrections to
5 your prefiled settlement testimony?

6 A. No, I do not.

7 Q. If I were to ask you the same questions
8 today, would your answers be the same?

9 A. Yes, they would.

10 MS. HOLT: Chair Kemeraït, I move that
11 Ms. Johnson's direct testimony and settlement
12 testimony be copied into the record as if given
13 orally from the stand and that her exhibits be
14 identified as premarked.

15 COMMISSIONER KEMERAÏT: Your motion is
16 allowed.

17 (Johnson Exhibit 1 and Johnson
18 Settlement Exhibit A were identified as
19 they were marked when prefiled.)

20 (Whereupon, the prefiled direct and
21 Appendix A and settlement testimony of
22 Sonja R. Johnson was copied into the
23 record as if given orally from the
24 stand.)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. G-39, SUB 46
DOCKET NO. G-39, SUB 47

DOCKET NO. G-39, SUB 46

In the Matter of
Cardinal Pipeline Company, LLC
Depreciation Rate Study as of
December 31, 2020

DOCKET NO. G-39, SUB 47

In the Matter of
Application of Cardinal Pipeline
Company, LLC, for an Adjustment in its
Rates and Charges

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)
) TESTIMONY OF
) SONJA R. JOHNSON
) ON BEHALF OF
) THE PUBLIC STAFF –
) NORTH CAROLINA
) UTILITIES COMMISSION
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BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**DOCKET NO. G-39, SUB 46****DOCKET NO. G-39, SUB 47****TESTIMONY OF SONJA R. JOHNSON****ON BEHALF OF THE PUBLIC STAFF –
NORTH CAROLINA UTILITIES COMMISSION****June 10, 2022**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND**
2 **PRESENT POSITION.**

3 A. My name is Sonja R. Johnson. My business address is 430 North
4 Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am the
5 Accounting Manager for Natural Gas and Transportation with the
6 Accounting Division of the Public Staff – North Carolina Utilities
7 Commission (Public Staff).

8 **Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.**

9 A. My qualifications and duties are included in Appendix A.

10 **Q. WHAT IS THE NATURE OF THE APPLICATION IN THIS RATE**
11 **CASE?**

12 A. Cardinal Pipeline Company, LLC (Cardinal or the Company) filed an
13 application with the Commission on March 15, 2022, in Docket No.
14 G-39, Sub 47, with a test period ended December 31, 2021, seeking
15 approval of: (1) an adjustment in its rates; (2) revised and updated

1 amortizations and recovery of certain regulatory assets accrued
2 since the Company's last general rate case; (3) the flowback of
3 certain regulatory liabilities arising from excess deferred income
4 taxes (EDIT) associated with the Tax Cuts and Jobs Act and state
5 income tax reductions; (4) authority to place certain pipeline integrity
6 management costs in a deferred account for proposed future
7 collection; (5) a request for deferred account treatment of
8 cybersecurity expenses; and (6) other updates and revisions to
9 Cardinal's rate schedules and service regulations.

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

11 A. The purpose of my testimony is to present my recommended
12 accounting and ratemaking adjustments and to incorporate the
13 adjustments recommended by other Public Staff witnesses from the
14 Public Staff's Energy and Economic Research Divisions. The Public
15 Staff has made its adjustments based on its investigation of the
16 revenue, expenses, and rate base presented by the Company in
17 support of its request for an annual revenue requirement increase of
18 \$919,530 in this proceeding.

19 **Q. BRIEFLY EXPLAIN THE SCOPE OF YOUR INVESTIGATION**
20 **REGARDING THIS RATE INCREASE APPLICATION.**

21 A. My investigation included a review of the application, testimony,
22 exhibits, and other data filed by the Company, an examination of the

1 books and records for the test year, and a review of the Company's
2 G-1 Minimum Filing Requirements and its proposed accounting, end-
3 of-period, and after-period adjustments to test year revenue,
4 expenses, and rate base. The Public Staff has also conducted
5 extensive discovery in this matter, including the review of responses
6 provided by the Company in response to Public Staff data requests
7 and previously filed information, as well as participation in virtual
8 meetings with the Company.

9 **Q. PLEASE BRIEFLY DESCRIBE THE PUBLIC STAFF'S**
10 **PRESENTATION OF THE ISSUES IN THIS CASE.**

11 A. Each Public Staff witness will present testimony and exhibits
12 supporting his or her position and recommend any appropriate
13 adjustments to the Company's proposed rate base, cost of service,
14 and cost of capital. My exhibits incorporate adjustments from other
15 Public Staff witnesses, as well as the adjustments I recommend.

16 **Q. PLEASE GIVE A MORE DETAILED DESCRIPTION OF THE**
17 **ORGANIZATION OF YOUR EXHIBITS.**

18 A. Schedule 1 of Johnson Exhibit I presents a reconciliation of the
19 difference between the Company's requested revenue increase and
20 the Public Staff's recommended revenue decrease.

1 Schedule 2 presents the Public Staff's adjusted North Carolina retail
2 original cost rate base. The adjustments made to the Company's
3 proposed level of rate base are summarized on Schedule 2-1 and
4 detailed on backup schedules.

5 Schedule 3 presents a statement of net operating income for return
6 (NOI) under present rates as adjusted by the Public Staff, as well as
7 a summary of the Public Staff's recommended adjustments to NOI.
8 The Public Staff's NOI adjustments are detailed on backup
9 schedules.

10 Schedule 4 presents the calculation of required NOI, based on the
11 rate base and cost of capital recommended by the Public Staff.

12 Schedule 5 presents the calculation of the required decrease in
13 operating revenue necessary to achieve the required NOI. This
14 revenue decrease is equal to the Public Staff's recommended
15 revenue decrease shown on Schedule 1, except for a small
16 difference due to rounding.

17 **Q. WHAT ADJUSTMENTS RECOMMENDED BY OTHER PUBLIC**
18 **STAFF WITNESSES DO YOUR EXHIBITS INCORPORATE?**

19 **A.** My exhibits reflect the following adjustments recommended by other
20 Public Staff witnesses:

1 (1) The recommendations of Public Staff witness Hinton
2 regarding the overall cost of capital, capital structure,
3 embedded cost of long-term debt, and return on common
4 equity; and

5 (2) The recommendation of Public Staff witness McCullar
6 regarding the Depreciation Rate Study, which included
7 adjustments to certain depreciation rates.

8 **Q. PLEASE DESCRIBE YOUR RECOMMENDED ADJUSTMENTS.**

9 A. The accounting and ratemaking issues that I will discuss relate to the
10 following items:

- 11 (a) Plant in Service
- 12 (b) Accumulated Depreciation
- 13 (c) Accumulated Deferred Income Taxes (ADIT)
- 14 (d) Depreciation Expense
- 15 (e) Excess Deferred Income Taxes (EDIT)
- 16

17 Additionally, I am presenting testimony regarding the Company's
18 proposals on deferred pipeline integrity costs and cybersecurity
19 costs.

20
21 **PLANT IN SERVICE, ACCUMULATED DEPRECIATION, AND**
22 **ACCUMULATED DEFERRED INCOME TAXES**

23 **Q. PLEASE EXPLAIN HOW PLANT IN SERVICE, ACCUMULATED**
24 **DEPRECIATION, AND ACCUMULATED DEFERRED INCOME**
25 **TAXES HAVE BEEN REFLECTED IN YOUR EXHIBITS.**

26 A. The Company filed an update in this case, which reflected plant in
27 service, accumulated depreciation, and ADIT for actual entries
28 recorded on the Company's books through March 31, 2022. I have

1 included these updates in my rate base and NOI schedules. Johnson
2 Exhibit I, Schedules 2 and 2-1 reflect the Public Staff's calculation of
3 and adjustments to plant in service, accumulated depreciation, and
4 accumulated deferred income taxes.

5 **DEPRECIATION EXPENSE**

6 **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO DEPRECIATION**
7 **EXPENSE.**

8 A. I made adjustments to: (1) reflect various depreciation rate changes
9 that were recommended by Public Staff witness McCullar; and (2)
10 apply the rates to annualized amounts of depreciable plant based on
11 the actual plant in service as of March 31, 2022. Johnson Exhibit I,
12 Schedule 3 reflects the Public Staff's calculation of and adjustments
13 to depreciation expense.

14 **EXCESS DEFERRED INCOME TAXES**

15 **Q. PLEASE EXPLAIN THE PUBLIC STAFF'S ADJUSTMENT TO**
16 **EXCESS DEFERRED INCOME TAXES.**

17 A. Due to the reduction of the Federal Income Tax Rate from 35% to
18 21% as a result of the Tax Cuts and Jobs Act of 2017 (TCJA), and
19 the reduction of North Carolina's Corporate Income Tax Rate from 3%
20 to 2.5%, the Company has calculated a net regulatory liability for
21 excess deferred income taxes (EDIT) in the amount of \$13,737,017.

1 Cardinal has used the IRS-approved Reverse South Georgia Method
2 (RSGM) to determine the amortization period for the flowback to
3 customers. This methodology calculates an average remaining life
4 (ARL) by dividing the net depreciable plant by the annual depreciation
5 expense. The EDIT is then divided by the ARL to determine an annual
6 amortization amount. My adjustment was calculated utilizing an ARL
7 of 20.26, as opposed to the 26.69 utilized by the Company. The
8 difference was due to the adjusted depreciation expense as
9 discussed above. My adjustment is shown on Johnson Exhibit I,
10 Schedule 3-1.

11 **DEFERRED TREATMENT OF PIPELINE INTEGRITY EXPENSES**

12 **Q. PLEASE EXPLAIN YOUR RECOMMENDATION REGARDING**
13 **THE CONTINUATION OF DEFERRED TREATMENT OF CERTAIN**
14 **PIPELINE INTEGRITY EXPENSES.**

15 **A.** In Docket No. G-39, Sub 38, Cardinal received approval to defer
16 certain pipeline integrity operations and maintenance (O&M)
17 expenses. Cardinal was allowed to defer pipeline assessment costs
18 paid for services provided by independent contractors and outside
19 consultants that were necessary for compliance with the United
20 States Department of Transportation Pipeline and Hazardous
21 Materials Safety Administration (PHMSA) regulations and to ensure

1 the safety and integrity of the Cardinal pipeline. Authorization to defer
2 the pipeline integrity costs remained in effect through the effective
3 date of rates in Cardinal's most recent general rate case, which was
4 consistent with prior Commission orders. Cardinal did not defer
5 internal payroll costs or other internal O&M expenses. The Public
6 Staff has carefully reviewed the Company's request for continuation
7 of deferral of certain pipeline integrity O&M expenses and concludes
8 that the proposal is reasonable and appropriate and should be
9 approved and implemented.

10 **DEFERRED TREATMENT OF CYBERSECURITY EXPENSES**

11 **Q. PLEASE EXPLAIN YOUR RECOMMENDATION REGARDING A**
12 **NEW MECHANISM TO ADDRESS CERTAIN COSTS CARDINAL**
13 **WILL INCUR IN RESPONSE TO A FEDERAL MANDATE.**

14 **A.** As set forth in the testimony of Company witness Kerri H. Miller,
15 Cardinal has proposed deferred treatment of cybersecurity O&M
16 expenses anticipated to be incurred to be compliant with Federal
17 mandates, because the O&M for the test year does not include these
18 expenses. Cardinal is proposing to place the actual costs incurred in
19 the future in a deferred account (regulatory asset) for proposed
20 recovery through amortization beginning in future rate cases.
21 Cardinal anticipates that the O&M costs will be between
22 approximately \$175,000 and \$1,200,000. Cardinal states, however,

1 that these amounts are preliminary cost estimates, and the Company
2 might be required to implement additional cybersecurity mitigation
3 measures.

4 The Public Staff has determined that since these costs are not
5 measurable at this time to any degree of certainty, and thus cannot
6 currently be evaluated as to whether their final amount would even
7 justify deferral, it would be premature to consider approval of deferral
8 in this rate case. Therefore, the Public Staff recommends instead that
9 if Cardinal still wishes to defer these costs when they are actually
10 incurred and are measurable, it should, within six months of the
11 implementation of the new cybersecurity mitigation measures or in
12 the Company's next general rate case following the implementation,
13 whichever comes first, apply for authorization to defer and amortize
14 the cybersecurity-related costs. Additionally, I recommend that
15 amortization of these costs begin, if approved, immediately upon the
16 incurrence of the costs (unless the Commission finds, in its
17 discretion, that the costs are too significant to begin amortization
18 before future rates are approved. The Public Staff also recommends
19 that the Commission find that in order to be deferred, the costs must
20 meet the two-prong test (extraordinariness and magnitude)
21 sometimes applied by the Commission in its evaluation of deferral
22 requests, or such other criteria that the Commission may find

1 appropriate and reasonable at that point in time (for example, as
2 evidenced in its order in Docket No. G-5, Sub 565 dated October 28,
3 2016, which dealt with Pipeline Integrity Management Operating and
4 Maintenance expenses that were extraordinary in the sense that they
5 were associated with the incorporation of a major investment into
6 Public Service Company of North Carolina's (PSNC) rate structure,
7 and denial of deferral would have resulted in the appearance of
8 PSNC not having a reasonable opportunity to earn the return on
9 equity (ROE) approved in its most recent general rate case).

10 **CONCLUSION**

11 **Q. WHAT IS THE PUBLIC STAFF'S RECOMMENDATION**
12 **REGARDING THE COMPANY'S REVENUE REQUIREMENT IN**
13 **THIS PROCEEDING?**

14 A. The Public Staff recommends that the Company's revenue
15 requirement be reduced by \$639,404 from the annualized level of
16 test year revenues produced by current rates.

17 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

18 A. Yes, it does.

QUALIFICATIONS AND EXPERIENCE

SONJA R. JOHNSON

I am a graduate of North Carolina State University with a Bachelor of Science and Master of Science degree in Accounting. I was initially an employee of the Public Staff from December 2002 until May 2004 and rejoined the Public Staff in January 2006. I became the Accounting Division's Manager for Natural Gas and Transportation in May 2022.

As an Accounting Manager, I am responsible for the performance and supervision of the following activities: (1) the examination and analysis of testimony, exhibits, books and records, and other data presented by utilities and other parties under the jurisdiction of the Commission or involved in Commission proceedings; and (2) the preparation and presentation to the Commission of testimony, exhibits, and other documents in those proceedings.

Since initially joining the Public Staff in December 2002, I have filed testimony or affidavits in several water and sewer general rate cases. I have also filed testimony in applications for certificates of public convenience and necessity to construct water and sewer systems and noncontiguous extension of existing systems. My experience also includes filing affidavits

in several fuel clause rate cases and Renewable Energy and Energy Efficiency Portfolio Standard (REPS) cost recovery cases for the utilities currently organized as Duke Energy Carolinas, LLC, Duke Energy Progress, LLC, and Virginia Electric and Power Company d/b/a Dominion North Carolina Power.

While away from the Public Staff, I was employed by Clifton Gunderson, LLP. My duties included the performance of cost report audits of nursing homes, hospitals, federally qualified health centers, intermediate care facilities for the mentally handicapped, residential treatment centers and health centers.

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. G-39, SUB 46

DOCKET NO. G-39, SUB 47

DOCKET NO. G-39, SUB 46)	
)	
In the Matter of)	
Cardinal Pipeline Company, LLC)	
Depreciation Rate Study as of	)	SETTLEMENT
December 31, 2020	)	TESTIMONY OF
	)	SONJA R. JOHNSON
DOCKET NO. G-39, SUB 47	)	PUBLIC STAFF – NORTH
	)	CAROLINA UTILITIES
In the Matter of	)	COMMISSION
Application of Cardinal Pipeline)	
Company, LLC, for an Adjustment in its)	
Rates and Charges)	
)	

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**DOCKET NO. G-39, SUB 46
DOCKET NO. G-39, SUB 47****SETTLEMENT TESTIMONY OF SONJA R. JOHNSON SUPPORTING
STIPULATION****ON BEHALF OF THE PUBLIC STAFF –
NORTH CAROLINA UTILITIES COMMISSION****July 5, 2022**

1 **Q. MS. JOHNSON, WHAT IS THE PURPOSE OF YOUR TESTIMONY**
2 **IN SUPPORT OF THE STIPULATION IN THIS PROCEEDING?**

3 A. The purpose of my Settlement Testimony is to support the
4 Settlement Agreement and Stipulation (Stipulation) filed on July 5,
5 2022, between Cardinal Pipeline Company, LLC (Cardinal or the
6 Company), Piedmont Natural Gas Company, Inc., and the Public
7 Staff (collectively, the Stipulating Parties) regarding issues related to
8 the Company's application for a general rate increase.

9 **Q. PLEASE BRIEFLY DESCRIBE THE CHANGES ADDRESSED IN**
10 **THE STIPULATION.**

11 A. The Stipulation sets forth agreement between the Stipulating Parties
12 regarding the following revenue requirement and other rate case
13 issues:

- 14 (1) Return on Equity, Capital Structure, and Debt Cost.
15 (2) Adjustment to Regulatory Fee Under Present and Proposed
16 Rates.

- 1 (3) Plant in Service and Accumulated Depreciation Updates.
- 2 (4) Adjustment to Amortize EDIT (Reverse South Georgia
- 3 Adjustment).
- 4 (5) Agreement regarding Termination of EDIT Amortization
- 5 related to Docket No. G-39, Sub 38.
- 6 (6) Adjustment for Updated Working Capital.
- 7 (7) Adjustment for Updated ADIT.
- 8 (8) Adjustment to Depreciation Rates.
- 9 (9) Deferral of Pipeline Integrity Expenses.
- 10 (10) Deferral of Anticipated Future Cybersecurity Expenses.
- 11 (11) Allocation Methodology and Factors.
- 12 (12) Next General Rate Case Filing.

13 The details of the agreements between the Stipulating Parties in
14 these and other areas are set forth in the Stipulation and Stipulation
15 exhibits. Settlement Exhibit A and supporting schedules, which are
16 attached hereto, show the revenue requirement adjustments agreed
17 to by the Stipulating Parties and a reconciliation of the settlement
18 adjustments to Cardinal's filed rate increase.

19 **Q. WHAT BENEFITS DOES THE STIPULATION PROVIDE FOR**
20 **RATEPAYERS?**

21 A. From the perspective of the Public Staff, the most important benefits
22 provided by the Stipulation are as follows:

- 23 (a) A reduction in the Company's proposed revenue increase in
- 24 this proceeding.

1 (b) The avoidance of protracted litigation between the Stipulating
2 Parties before the Commission and possibly the appellate
3 courts.

4 Based on these ratepayer benefits, as well as the other provisions of
5 the Stipulation, the Public Staff believes the Stipulation is in the
6 public interest and should be approved.

7 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

8 **A. Yes.**

1 Q. Ms. Johnson, do you have a summary of your
2 testimony?

3 A. I do. I filed initial testimony and an
4 exhibit in support of the Public Staff position on
5 June 13, 2022, which resulted in several adjustments to
6 the Company's filed case.

7 On July 5, 2022, the parties were able to
8 arrive at a settlement of all issues, including a
9 difference in calculation of the amortization of excess
10 deferred income taxes, the terms of which are reflected
11 in my settlement testimony, Settlement Exhibit A, and
12 the testimony of Company witnesses Miller, Haag, and
13 Fall.

14 This concludes my summary.

15 Q. Thank you.

16 DIRECT EXAMINATION BY MS. COXTON:

17 Q. Mr. Hinton, please state your name, position,
18 and business address for the record.

19 A. (John R. Hinton) My name is John Robert
20 Hinton. My business address is 430 North Salisbury
21 Street, Raleigh, North Carolina. I'm the director of
22 the Economic Research Division for the Public Staff.

23 Q. Mr. Hinton, on June 10, 2022, did you prefile
24 direct testimony consisting of 33 pages, an appendix,

1 and 10 exhibits?

2 A. Yes.

3 Q. Do you have any changes or corrections to
4 your prefiled direct testimony?

5 A. Yes, I do. Page 33 there are a couple of
6 typos. On line 13, the number 2.03 percent should read
7 1.95 percent. Line 14 below, the number reads
8 4.91 percent. It should read 4.93 percent. The
9 overall cost of capital in my exhibit is correct, 6.88
10 percent. There's no change here, just the typos.
11 That's the only correction I have.

12 Q. And with those changes, if I were to ask you
13 those same questions today, would your answers be the
14 same?

15 A. Yes.

16 Q. Do you have any changes or corrections to
17 your exhibits?

18 A. No.

19 Q. And for the record, one page of your
20 testimony was marked confidential; is that correct?

21 A. Yes.

22 Q. On July 5, 2022, did you prefile settlement
23 testimony consisting of seven pages, an Appendix A, and
24 one exhibit?

1 A. Yes.

2 Q. Do you have any changes or corrections to
3 your prefiled settlement testimony?

4 A. No, I do not.

5 Q. If I were ask you those same questions today,
6 would your answers be the same?

7 A. Yes.

8 MS. COXTON: Chair Kemerait, I move that
9 Mr. Hinton's direct testimony as corrected and
10 settlement testimony be copied into the record in
11 this proceeding as if given orally from the stand,
12 and that the appendix and exhibits attached to his
13 direct testimony and settlement testimony be
14 identified as marked when filed.

15 COMMISSIONER KEMERAIT: Your motion is
16 allowed.

17 (Hinton Direct Exhibits 1 through 10 and
18 Hinton Settlement Exhibit I were
19 identified as they were marked when
20 prefiled.)

21 (Whereupon, the prefiled direct
22 testimony and Appendix A and settlement
23 testimony and Appendix A of
24 John R. Hinton were copied into the

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record as if given orally from the
stand.)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. G-39, SUB 46

DOCKET NO. G-39, SUB 47

DOCKET NO. G-39, SUB 46

In the Matter of
 Cardinal Pipeline Company, LLC
 Depreciation Rate Study as of
 December 31, 2020

DOCKET NO. G-39, SUB 47

In the Matter of
 Application of Cardinal Pipeline
 Company, LLC, for an Adjustment of
 Rates and Charges in North Carolina

TESTIMONY OF
 JOHN R. HINTON
 ON BEHALF OF
 THE PUBLIC STAFF –
 NORTH CAROLINA
 UTILITIES COMMISSION

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

**DOCKET NO. G-39, SUB 46
DOCKET NO. G-39, SUB 47**

TESTIMONY OF JOHN R. HINTON

**ON BEHALF OF THE PUBLIC STAFF
NORTH CAROLINA UTILITIES COMMISSION**

June 10, 2022

1 **Q. PLEASE STATE FOR THE RECORD YOUR NAME, BUSINESS**
2 **ADDRESS, AND PRESENT POSITION.**

3 A. My name is John R. Hinton. My business address is 430 North
4 Salisbury Street, Raleigh, North Carolina. I am the Director of the
5 Economic Research Division of the Public Staff - North Carolina
6 Utilities Commission. My qualifications are included in Appendix A to
7 this testimony.

8 **Q. PLEASE OUTLINE YOUR EDUCATIONAL BACKGROUND AND**
9 **RELEVANT EMPLOYMENT EXPERIENCE.**

10 A. I received a B.S. in Economics from the University of North Carolina at
11 Wilmington in 1980 and a Masters in Economics from North Carolina
12 State University in 1983. Since joining the Public Staff in May of 1985,
13 I have filed testimony on the long-range electrical energy and peak
14 forecasts, weather normalization for electrical energy, electric
15 generation certificate of public convenience and necessity
16 applications natural gas expansion projects, and the rate of return in

1 electric utility, natural gas utility and water utility rate cases as noted
2 in Appendix A.

3 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
4 **PROCEEDING?**

5 A. The purpose of my testimony is to present to the North Carolina Utilities
6 Commission (Commission) my findings and recommendations
7 regarding the reasonable cost of capital to be used in establishing rates
8 for Cardinal Pipeline Company, LLC (Cardinal or Company).

9 **Q. HOW IS YOUR TESTIMONY STRUCTURED?**

10 A. The remainder of my testimony is structured as follows:

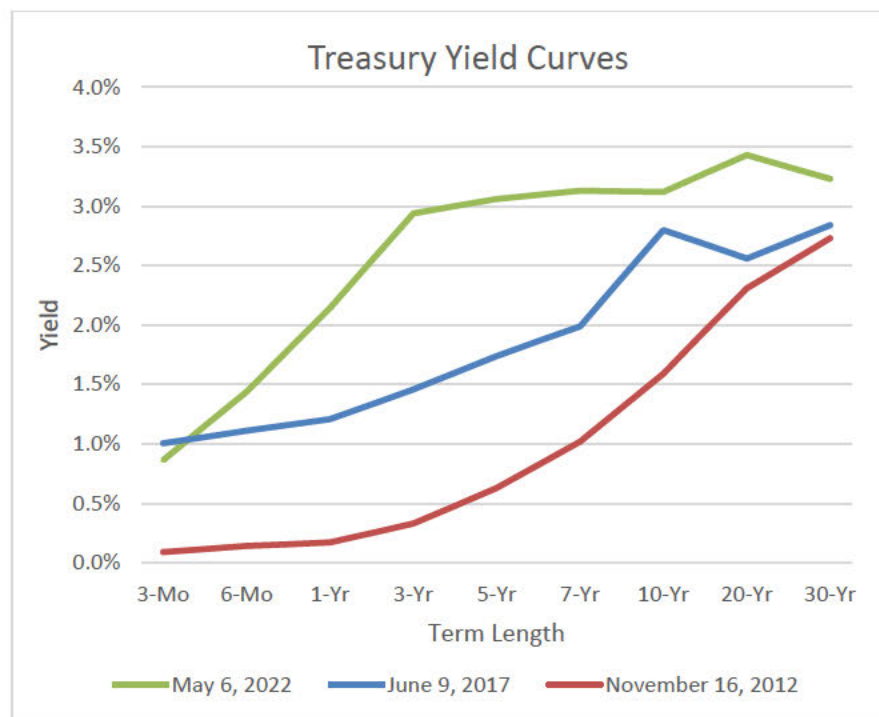
- 11 I. Present Financial Conditions
- 12 II. Introduction and Cardinal Background
- 13 III. Capital Structure and Cost of Debt
- 14 IV. Cost of Common Equity Capital
- 15 V. Review of Company Witness Haag's Testimony
- 16 VI. Summary and Recommendation

17 **I. PRESENT FINANCIAL MARKET CONDITIONS**

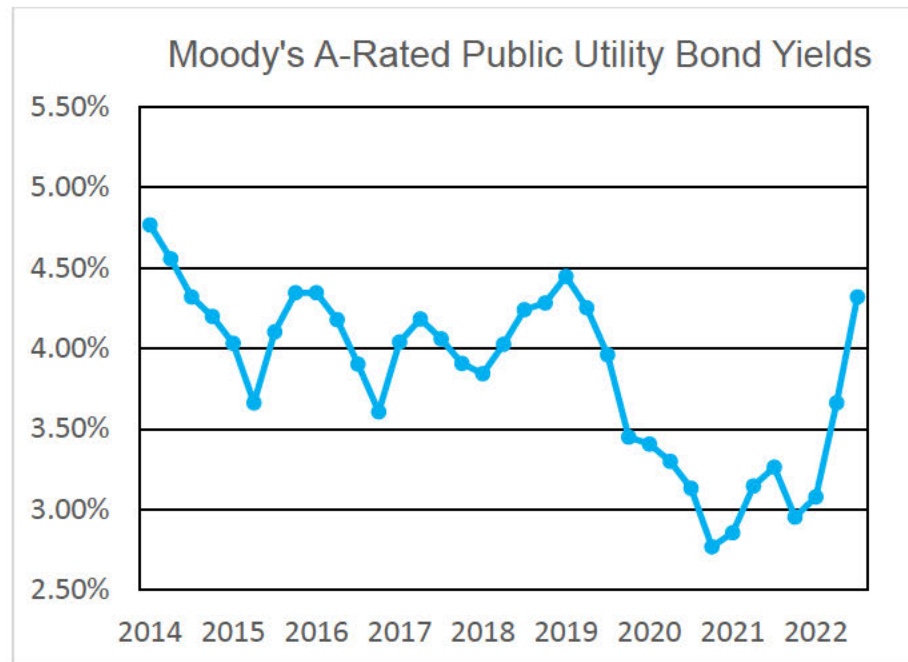
18 **Q. CAN YOU BRIEFLY DESCRIBE CURRENT FINANCIAL MARKET**
19 **CONDITIONS?**

20 A. Yes. As compared to the last thirty years there has been a resurgence
21 of inflation, which has contributed to an increase in inflationary

expectations and increases in interest rates. The changes in the U.S. Treasury bond yield curves illustrate differences in increases in interest rates over various terms. The largest increase in the difference from current yields compared to 2017 is with the three- and five-year terms, which are approximately 140 basis points greater than in 2017; however, the increases in the 30-year term U.S. Treasury bonds reflect an increase of approximately 40 basis points.



With particular importance to utility financings, yields on long-term “A” rated utility bonds as reported by Moody’s Bond Survey have increased to 4.75% for May 2022, as compared to 3.99% observed during July 2017, which coincides with Cardinal’s 2017 rate case. The changes in the A-rated Public Utility bond yields are shown below:



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The economy for April 2022 is experiencing increases with annual inflation rates of 8.3%¹ that have not been observed since 1982. However, it is reasonable to believe that the above increases in utility bond yields reflect expected future inflation rates, and changes in the yield curve suggest that inflationary expectations are greater in the short term relative to longer term. I considered present market conditions and changing economic conditions in arriving at the Public Staff's recommended return on equity.

¹ U.S. Bureau of Labor Statistics, CPI for All Urban Consumers, downloaded on May 26, 2022, <https://www.bls.gov/cpi/data.htm>.

II. INTRODUCTION AND BACKGROUND

**Q. HOW DOES ONE DETERMINE THE COST OF CAPITAL FOR A
PUBLIC UTILITY?**

A. To determine the cost of capital, I performed a study consisting of three steps. First, I determined a capital structure appropriate for ratemaking purposes. Utilities normally finance assets with debt, preferred stock and common equity. Because each form of capital has a different cost, especially after income tax considerations, the relative amounts of each form of capital employed to finance the assets can have a significant influence on the overall cost of capital. Second, I determined the cost rates for each form of financial capital. Debt capital contains contractual agreements specifying the annual costs. However, the cost of equity capital is much more difficult to determine, since it requires one to ascertain the state of investors' expectations. Third, by combining the capital structure ratios with the associated cost rates, I calculated an overall weighted cost of capital applicable to the utility.

**Q. ARE THERE ANY LEGAL AND ECONOMIC GUIDELINES TO
FOLLOW WHEN DETERMINING THE COST OF CAPITAL FOR A
PUBLIC UTILITY?**

A. A firm's cost of equity capital is equal to the rate of return investors expect to earn on the firm's securities given the securities' level of risk. An investment with a greater risk will require a higher expected

1 return by investors. In *Federal Power Com. v. Hope Natural Gas Co.*,
2 320 U.S. 591, 603, (1944) (*Hope*), the United States Supreme Court
3 stated:

4 [T]he return to the equity owner should be
5 commensurate with returns on investments in other
6 enterprises having corresponding risks. That return,
7 moreover, should be sufficient to assure confidence in
8 the financial integrity of the enterprise, so as to
9 maintain its credit and to attract capital.

10 In *Bluefield Waterworks & Improvement Co. v. Public Service*
11 *Comm'n*, 262 U.S. 679, 692-93, (1923) (*Bluefield*) the United States
12 Supreme Court stated:

13 A public utility is entitled to such rates as will permit it
14 to earn a return on the value of the property which it
15 employs for the convenience of the public equal to that
16 generally being made at the same time and in the same
17 general part of the country on investments in other
18 business undertakings which are attended by
19 corresponding risks and uncertainties, but it has no
20 constitutional right to profits such as are realized or
21 anticipated in highly profitable enterprises or
22 speculative ventures. The return should be reasonably
23 sufficient to assure confidence in the financial
24 soundness of the utility, and should be adequate, under
25 efficient and economical management, to maintain and
26 support its credit and enable it to raise the money
27 necessary for the proper discharge of its public duties.
28 A rate of return may be reasonable at one time and
29 become too high or too low by changes affecting
30 opportunities for investment, the money market, and
31 business conditions generally.

32 These two decisions recognize that utilities are competing for the
33 capital of investors and provide legal guidelines as to how the
34 allowed rate of return should be set. The decisions specifically speak

1 to the standards or criteria of capital attraction, financial integrity, and
2 comparable earnings. The *Hope* decision, in particular, recognizes
3 that the cost of common equity is commensurate with risk relative to
4 investments in other enterprises. In competitive capital markets, the
5 required return on common equity will be the expected return
6 foregone by not investing in alternative stocks of comparable risk.
7 Thus, in order for the utility to attract capital, possess financial
8 integrity, and exhibit comparable earnings, the return allowed on a
9 utility's common equity should be that return required by investors for
10 stocks with comparable risk. As such, the return requirements of debt
11 and equity investors, which are shaped by expected risk and return,
12 are paramount in attracting capital.

13 It is widely recognized that a public utility should be allowed a rate of
14 return on capital that will allow the utility, under prudent management,
15 to attract capital under the criteria or standards referenced by the
16 *Hope* and *Bluefield* decisions. If the allowed rate of return is set too
17 high, consumers are burdened with excessive costs, current
18 investors receive a windfall, and the utility has an incentive to
19 overinvest. Likewise, customers will be charged prices that are
20 greater than the true economic costs of providing these services.
21 Consumers will consume too few of these services from a point of
22 view of efficient resource allocation. If the return is set too low, then

1 the utility stockholders will suffer because a declining value of the
2 underlying property will be reflected in a declining value of the utility's
3 equity shares. This could happen because the utility would not be
4 earning enough to maintain and expand its facilities to meet
5 customer demand for service, cover its operating costs, and attract
6 capital on reasonable terms. Lenders will shy away from the
7 company because of increased risk that the utility will default on its
8 debt obligations. Because a public utility is capital intensive, the cost
9 of capital is a very large part of its overall revenue requirement and
10 is a crucial issue for a company and its ratepayers.

11 The *Hope* and *Bluefield* standards are embodied in N.C. Gen. Stat.
12 § 62-133(b)(4), which requires that the allowed rate of return be
13 sufficient to enable a utility by sound management

14 to produce a fair return for its shareholders,
15 considering changing economic conditions and other
16 factors . . . to maintain its facilities and services in
17 accordance with the reasonable requirements of its
18 customers in the territory covered by its franchise, and
19 to compete in the market for capital funds on terms that
20 are reasonable and are fair to its customers and to its
21 existing investors.

22 In *State ex rel. Utils. Comm'n v. Cooper*, 366 N.C. 484, 739 S.E.2d
23 541 (2013) (*Cooper*), the North Carolina Supreme Court reversed
24 and remanded the Commission's Order in Docket No. E-7, Sub 989,
25 approving a stipulated return on equity of 10.50% for Duke Energy
26 Carolinas, LLC. In its decision, the North Carolina Supreme Court

1 held that (1) the 10.50% return on equity was not supported by the
2 Commission's own independent findings and analysis as required by
3 *State ex rel. Utils. Comm'n v. Carolina Util. Customers Ass'n*, 348
4 N.C. 452, 500 S.E.2d 693 (1988) (*CUCA I*), in cases involving
5 nonunanimous stipulations, and (2) the Commission must make
6 findings of fact regarding the impact of changing economic
7 conditions on consumers when determining the proper return on
8 equity for a public utility. In *Cooper*, however, the Court held that the
9 Commission must consider changing economic conditions and the
10 impact of those changes when approving a return on equity in all
11 cases that come before it. The foregoing analysis is required without
12 regard to whether a stipulation is present.

13 In considering this element, the Commission is guided by ratemaking
14 principles laid down by statute and interpreted by a body of North
15 Carolina case law developed over many years. According to these
16 principles, the test of a fair rate of return is a return on equity that will
17 provide a utility, by sound management, the opportunity to (1)
18 produce a fair profit for its shareholders in view of current economic
19 conditions, (2) maintain its facilities and service, and (3) compete in
20 the marketplace for capital. *State ex rel. Utils. Comm'n v. General*
21 *Tel. Co.*, 281 N.C. 318, 370, 189 S.E.2d 705, 738 (1972). Rates
22 should be set as low as reasonably possible consistent with

1 constitutional constraints. *State ex rel. Utils. Comm'n v. Pub. Staff-*
2 *North Carolina Utilities Com.*, 323 N.C. 481, 490, 374 S.E.2d 361,
3 366 (1988). The exercise of subjective judgment is a necessary part
4 of setting an appropriate return on equity. *Id.* Thus, in a particular
5 case, the Commission must strike a balance that (1) avoids setting a
6 return so low that it impairs the utility's ability to attract capital, (2)
7 avoids setting a return any higher than needed to raise capital on
8 reasonable terms, and (3) considers the impact of changing
9 economic conditions on consumers.

10 **Q. WHAT SOURCES OF INFORMATION DID YOU USE IN**
11 **PREPARING YOUR ANALYSIS OF THE COST OF CAPITAL?**

12 A. I have relied on information provided by the Company and information
13 contained in financial reporting services such as: Standard & Poor's
14 Stock Reports, S&P Global Market Intelligence, The Value Line
15 Investment Survey (Value Line), Moody's Credit Reports, and YAHOO
16 Finance.

17 **Q. PLEASE DISCUSS THE OWNERS OF CARDINAL.**

18 A. Cardinal is a limited liability company that is owned by TransCardinal
19 Company, LLC (a wholly owned subsidiary of The Williams Companies,
20 Inc.), and subsidiaries of Piedmont Natural Gas Company, Inc.
21 (Piedmont), and Public Service Company of North Carolina, Inc.
22 (PSNC). The owners supplied the necessary capital to construct

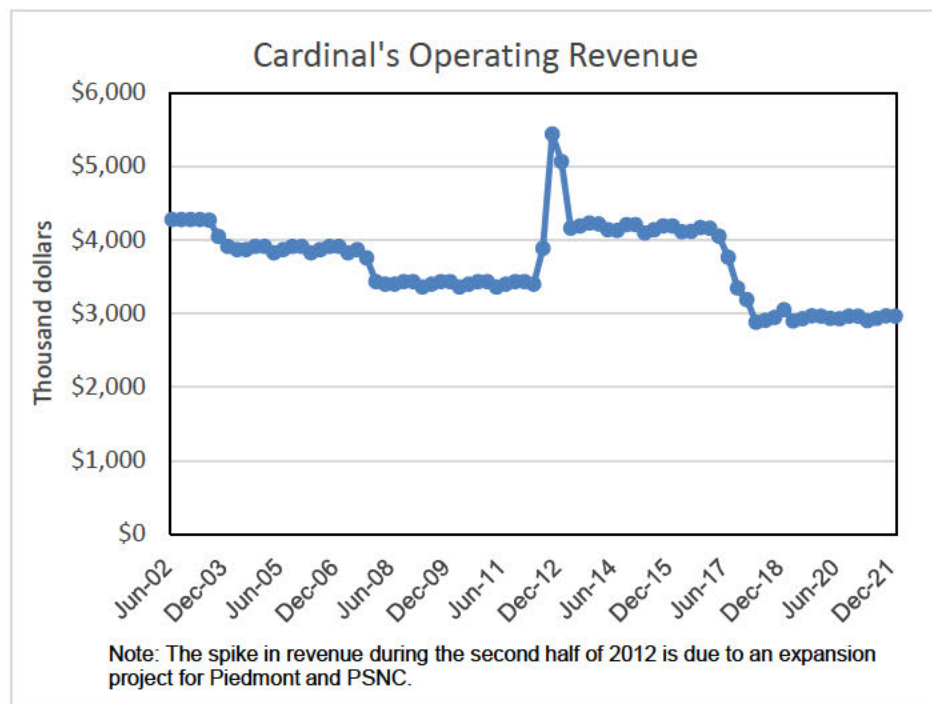
1 Cardinal. Since its initial start-up, the Company has relied on relatively
 2 little external financing from debt or equity investors. In 2011, the
 3 owners infused \$32.7 million and in 2012 the owners infused \$12.8
 4 million. In 2022, the owners contributed \$35 million which helped
 5 enable the retirement of their outstanding \$45,000,000 bond. Shown
 6 below are the annual distributions and capital returns paid to Transco,
 7 Piedmont, and PSNC.

Year	Total Distributions of Income (in dollars)	Return of Capital (in dollars)	Total Payments to Members (in dollars)
2006	9,300,000	0	9,300,000
2007	6,500,000	1,600,000	8,100,000
2008	7,200,000	0	7,200,000
2009	7,084,000	0	7,084,000
2010	6,100,000	0	6,100,000
2011	5,300,000	0	5,300,000
2012	3,000,000	25,000,000	28,000,000
2013	16,000,000	0	16,000,000
2014	10,322,403	2,377,597	12,700,000
2015	7,743,625	3,831,375	11,575,000
2016	7,627,979	3,947,021	11,575,000
2017	6,983,568	7,791,432	14,775,000
2018	0	6,100,000	6,100,000
2019	0	7,000,000	7,000,000
2020	2,884,599	3,615,401	6,500,000
2021	0	0	0
2022	4,400,000		4,400,000

8 **Q. PLEASE DISCUSS THE STABILITY OF CARDINAL'S REVENUES.**

9 A. Cardinal's revenue is based on fixed or demand-related charges as
 10 opposed to a volumetric rate structure, which holding all else constant,
 11 would lower risk. Historically, Cardinal's shipping capacity has been

and continues to be 100% nominated by two of its three owners. Unlike interstate pipelines, Cardinal is not exposed to bypass risk that interstate pipelines are exposed to in a competitive shipping business and are forced to offer discounts to reduce its rates to maintain its shipping throughput nor, has the Company ever had to discount its rates to acquire additional business from shippers. The below graph illustrates the stability of its net operating income.



Q. PLEASE DISCUSS THE COMPETITIVE RISKS OF CARDINAL RELATIVE TO INTERSTATE PIPELINES.

A. Based upon my investigation, I see little possibility that Cardinal's shippers would find it in their best interest to substitute capacity offered by another pipeline. The fact that the two shippers are also two of the three owners cannot be overlooked. Company witness David Haag

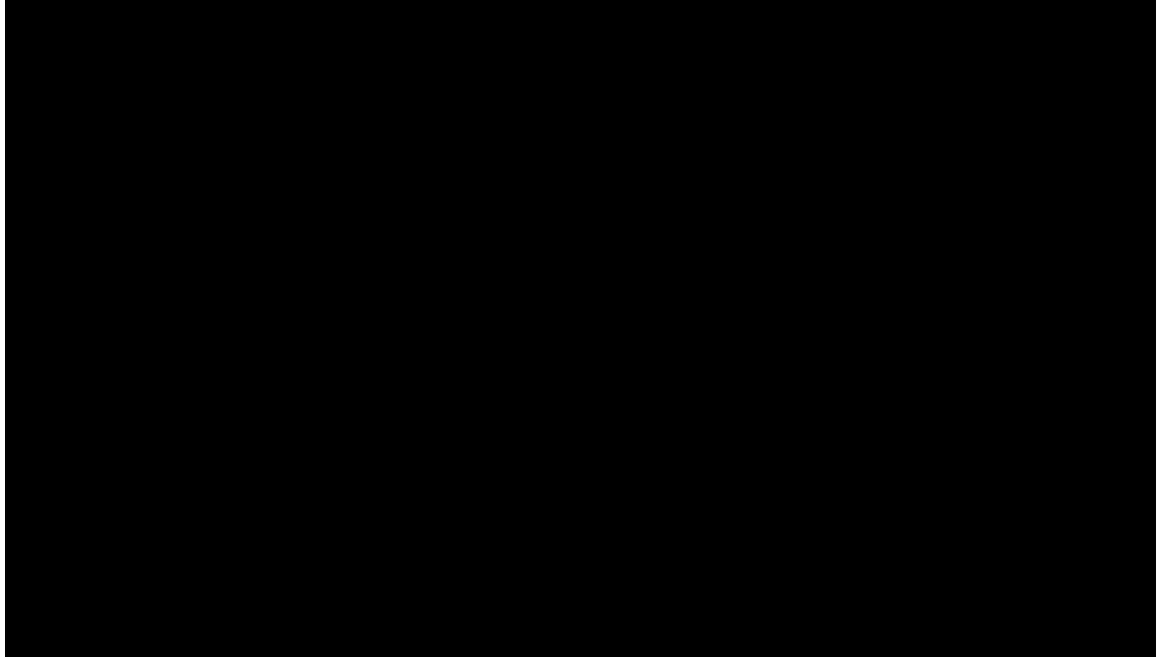
1 notes that the shipping contracts of Cardinal's initial system (Zone 1)
2 operate on a year-year evergreen basis; however, the 2012 expansion
3 project (Zone 2) is under contracts that extend to 2032. Company
4 witness Haag also notes that Cardinal has a higher concentrated
5 shipper base and faces a heightened level of counterparty risk when
6 compared to his proxy group of interstate pipelines. Furthermore,
7 Company witness Haag argues that Cardinal faces competition from
8 other natural gas pipelines, although Transco is largely considered the
9 only interstate pipeline that serves NC. Furthermore, such competition
10 in the interstate pipeline industry is common, and it was acknowledged
11 in a 2020 Williams Company press release² that notes that 51% of the
12 Company's 2019 revenue was based on negotiated rates.

13 It is noteworthy to see that Cardinal Pipeline does not geographically
14 intersect itself with competing pipelines. A current map of the system,
15 that is largely identical to a 2012 map of the system the Public Staff
16 previously obtained in Docket No. G-39, Sub 28, is shown below. The
17 map reveals little changes with other pipelines in Virginia, Tennessee,
18 Georgia, and South Carolina. At that time of the 2012 rate case, the
19 Company's rate of return witness Vilbert noted the risk associated with
20 several natural gas pipelines located within proximity of the markets

² Williams Company Press Release announcing FERC Filing of Transco Rate Case Settlement, January 2, 2020.

1 served by Cardinal. Specifically, he explained that “Columbia Gas
2 Transmission and East Tennessee Natural Gas could expand and/or
3 extend its facilities further into the state to provide additional service to
4 Piedmont and PSNC.”³

5 **BEGIN CONFIDENTIAL**



6 **END CONFIDENTIAL**

7 The relatively static composition of pipelines in and around North
8 Carolina, combined with cancelation of the proposed Atlantic Coast
9 Pipeline, and the questionable future of the proposed Mountain Valley
10 Pipeline indicate that there is little competitive pipeline risk that would
11 prompt Piedmont and PSNC not to renew their capacity contracts with

³ Docket No. G-39, Sub 28, Company response to Item 5 of Public Staff Data Request No. 2, dated September 26, 2012.

1 Cardinal. Therefore, its my opinion that Cardinal does not face the
2 competitive risks of interstate pipeline companies.

3 **Q IF YOU BELIEVE THAT THE INVESTMENT RISK OF CARDINAL IS**
4 **NOT COMPARABLE TO AN INTERSTATE PIPELINE, IS IT**
5 **COMPARABLE TO A LOCAL NATURAL GAS DISTRIBUTION**
6 **COMPANY?**

7 A. Yes, I maintain that the investment risk of Cardinal is more closely
8 aligned with the transmission-related risks of a local distribution
9 company (LDC). The Cardinal pipeline was initially designed as shared
10 transmission plant between PSNC and Piedmont to bring natural gas
11 into the central part of North Carolina where there was substantial
12 economic growth and a growing demand for natural gas. From an
13 engineering perspective, it is my understanding that Cardinal provides
14 highly valuable system strengthening to Piedmont and, especially,
15 PSNC. In that, Cardinal allows PSNC to move capacity from Transco
16 into the Raleigh and Cary areas, and it allows Piedmont to move
17 capacity off of Transco to the Piedmont interconnection near Clayton,
18 NC. In addition, Cardinal allows for the movement of capacity off the
19 Pine Needle LNG facility.

20 Furthermore, it is my understanding that the operating risk associated
21 with Cardinal's transmission lines are not significantly different from the
22 operating risk of the transmission lines of North Carolina's LDCs.

Based on data requests obtained in the Piedmont Natural Gas Company (Piedmont) last rate case in Docket No. G-9, Sub 781, I was able to conclude that Cardinal's test year O&M expense per mile are comparable to Piedmont's O&M expense per mile for its transmission lines. Furthermore, the operating pressures on Cardinal's pipelines are not significantly different from the pressures along the transmission lines of PSNC and Piedmont.

III. CAPITAL STRUCTURE AND COST OF DEBT

Q. WHAT CAPITAL STRUCTURE HAS THE COMPANY REQUESTED THAT THE COMMISSION EMPLOY IN SETTING THE REVENUE REQUIREMENT IN THIS CASE?

A. According to Company witness Kerri Miller's Exhibit KM-002, Schedule 8, page 2 of 3, the Company has requested the following capital structure and cost of long-term debt:

Cardinal Pipeline Company, LLC
Proposed Capital Structure
as of December 31, 2021

<u>Capital Item</u>	<u>Ratios</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long Term Debt	40.00%	5.25%	2.10%
Common Equity	60.00%	11.04%	6.62%
Total Capital	100.00%		8.72%

1 **Q. IS THE REQUESTED CAPITAL STRUCTURE APPROPRIATE FOR**
2 **RATEMAKING PURPOSES IN THE PROCEEDING?**

3 A. No. The requested equity ratio is unreasonable and reflects a larger
4 cushion of equity in the capital structure than is warranted given the
5 relatively low financial and business risks of Cardinal. The Company
6 rate of return witness Haag maintains that the business risk of
7 Cardinal is comparable to a group of interstate pipelines that are
8 reasonable in litigated FERC interstate pipeline rate cases. It is
9 understood by most investors that interstate pipelines operate in a
10 highly competitive world for gas shippers. Hinton Exhibit 1 is a
11 Moody's Investor Service (Moody's) report on "Natural Gas Pipelines"
12 that identifies several risk factors, such as the competitive position of
13 a pipeline company, fixed versus floating rate structures with shippers,
14 the likelihood of contract renewal, and length of contract terms with
15 shippers which are largely absent from the risk profile of Cardinal.

16 **Q. WHAT CAPITAL STRUCTURE DO YOU BELIEVE IS**
17 **APPROPRIATE FOR THE COMMISSION TO EMPLOY IN SETTING**
18 **THE REVENUE REQUIREMENT IN THIS CASE?**

19 In view of the lack of any significant competitive risk and Cardinal's
20 relatively low operating risk, I believe it is reasonable for the capital
21 structure to reflect the 51.96% average approved common equity ratio
22 for local natural gas distribution companies observed in 2020, 2021,

1 and the first quarter of 2022, as shown in Hinton Exhibit 2. The average
2 reflects 78 rate cases that range from a maximum equity ratio of
3 60.12% to a minimum equity ratio of 46.26%. In addition, four states⁴
4 were excluded from the sample because the Commission often
5 approves non-capital items, such as cost-free capital and deferred
6 taxes in the structure which reduces the equity ratio and renders the
7 ratio not comparable for this proceeding. In NC and most other states,
8 such non-capital items are used to offset the rate base.

9 **Q. DO YOU SUPPORT THE PROPOSED 5.25% HYPOTHETICAL**
10 **COST OF DEBT?**

11 A. No. Company witness Haag based his 5.25% cost rate for long-term
12 debt on the actual December 31, 2020, interest costs as reported in their
13 SEC filings for his core proxy group of four interstate pipelines: Kinder
14 Morgan, Inc., Pembina Pipeline Corp., TC Energy Corp., and The
15 Williams Companies, Inc. As discussed, I do not agree that the business
16 and investment risks of Cardinal are comparable to an interstate
17 pipeline company. As such, I do not believe this proposed cost of debt
18 is commensurate with the risk of Cardinal.

⁴ The four excluded state jurisdictions are Arkansas, Florida, Indiana, and Michigan.

- 1 **Q. PLEASE EXPLAIN YOUR CONCERNS WITH THE 5.25% COST**
2 **RATE FOR CARDINAL.**
- 3 A. I believe the cost rate for debt capital does not reflect the investment
4 risk and, more importantly, the credit quality of Cardinal. Thus, I believe
5 the proposed rate is excessive. This lack of comparability to an
6 interstate pipeline is evident if one reviews the interest rate spread
7 associated with the Company's most recent \$45 million bond issuance.
8 The original issue rate of 3.111% was observed with the \$45 million,
9 five-year debt issuance that was priced on May 17, 2017. For the close
10 on that day, the spread to five-year treasuries was 135 basis points. As
11 such, I recommend a 4.06% cost of debt. This rate is comprised of the
12 135-basis point spread added to the May 27, 2022 treasury yield of
13 2.71% with five-year securities as shown in Hinton Exhibit 3. In my
14 opinion, the 4.06% cost rate is an appropriate cost for Cardinal as
15 opposed to a cost of debt for an interstate pipeline that, on average, has
16 lower bond ratings, increased leverage, and added credit risk. In my
17 opinion, the spread approach better estimates the yield that bond
18 investors would require if Cardinal had decided to refinance this issue
19 as opposed to retiring the bond. In addition, the questionable
20 comparability of the four interstate pipeline is underscored by the
21 notable difference between the pipelines' bond ratings and currently
22 approved embedded cost of debt. The interstate pipelines' cost of debt

1 is higher than both Piedmont's and PSNC's approved debt costs⁵ of
 2 4.08% and 4.48%, respectively. Shown below are the yields and bond
 3 ratings that support Company witness Haag's recommended 5.25%
 4 cost of debt that should be viewed in concert with PSNC's "Baa1" bond
 5 rating by Moody's and Piedmont's bond ratings of "BBB+" and "A3" by
 6 S&P and Moody's, respectively:

Company	Cost Rate As of 12/31/20	S&P Bond Rating	Moody's Bond Rating
Kinder Morgan, Inc.	4.96%	BBB	Baa2
Pembina Pipeline Corp.	4.09%	BBB	NA
TC Energy Corp.	6.38%	BBB+	Baa2
The Williams Co.	5.56%	BBB	Baa2
Average	5.25%		

7 **Q. WHAT IS YOUR RECOMMENDED CAPITAL STRUCTURE AND**
 8 **COST OF DEBT?**

9 A. My recommended capital structure is comprised of 51.96% common
 10 equity and 48.04% long term debt. I also recommend a 4.06% cost rate
 11 for debt as shown below:

⁵ Piedmont's approved cost of debt of 4.08% in Docket No. G-9, Sub 781 and PSNC's approved cost of debt of 4.48% in Docket G-5, Sub 632.

Cardinal Pipeline Company, LLC
Capital Structure

<u>Capital Item</u>	<u>Ratios</u>	<u>Cost Rate</u>
Long Term Debt	48.04%	4.06%
<u>Common Equity</u>	<u>51.96%</u>	
Total Capital	100.00%	

IV. COST OF COMMON EQUITY

Q. WHAT METHODS DID YOU USE TO DETERMINE THE COST OF EQUITY TO CARDINAL?

A. I have employed the discounted cash flow (DCF) model and the risk premium method using a regression analysis of allowed returns for LDCs. In addition, I incorporated the comparable earnings method on my group of LDCs as a check method on the results of my DCF model and Risk Premium method analyses.

A. DCF METHOD

Q. PLEASE DESCRIBE YOUR DCF ANALYSIS.

A. The DCF model is a method of evaluating the expected cash flows from an investment by giving consideration to the time value of money. The DCF model is based on the theory that the price of the investment will equal the discounted cash flows of returns. The model provides an estimate of the rate of return required to attract common equity financing as a function of the market price of a stock, the company's

1 dividends, and investors' growth expectations. The return to an equity
 2 investor comes in the form of expected future dividends and price
 3 appreciation. However, as the new price will again be the sum of the
 4 discounted cash flows, price appreciation is ignored, and attention is
 5 instead focused on the expected stream of dividends. Mathematically,
 6 this relationship may be expressed as follows:

7 Let D_1 = expected dividends per share over the next twelve months;

8 g = expected growth rate of dividends;

9 k = cost of equity capital; and

10 P = price of stock or present value of the future income stream.

11 Then,

$$12 \quad P = \frac{D_1}{1+k} + \frac{D_1(1+g)}{(1+k)^2} + \frac{D_1(1+g)^2}{(1+k)^3} + \dots + \frac{D_1(1+g)^{t-1}}{(1+k)^t}$$

15 This equation represents the amount an investor would be willing to
 16 pay for a share of common stock with a dividend stream over the
 17 future periods. Using the formula for a sum of an infinite geometric
 18 series, this equation may be reduced to:

$$19 \quad P = \frac{D_1}{k-g}$$

22 Solving for k yields the DCF equation:

$$23 \quad k = \frac{D_1 + g}{P}$$

1 Therefore, the rate of return on equity capital required by investors is
2 the sum of the dividend yield (D_1/P) plus the expected long-term
3 growth rate in dividends (g).

4 **Q. DID YOU CONSIDER THE COST OF EQUITY FOR A GROUP OF**
5 **COMPANIES COMPARABLE IN RISK TO CARDINAL?**

6 A. Yes. The cost of equity capital is a cost borne by firms whose equity
7 shares are considered to be risk-comparable investments. Because of
8 this principle, an analyst can benefit from identifying investments of
9 comparable risk. The use of a group of companies smooths out any
10 abnormally high or low growth rate in earnings or dividends that is not
11 expected to continue indefinitely.

12 In order to estimate the investor-required rate of return, I have identified
13 nine companies inside the natural gas distribution utility companies as
14 identified in the Standard Edition of Value Line. I have removed
15 NiSource, Inc. because they had a cut in their dividends over the last
16 ten years. The investor-related risk measures for this group is shown in
17 Hinton Exhibit 4.

18 **Q. HOW DID YOU DETERMINE THE DIVIDEND YIELD COMPONENT**
19 **OF THE DCF?**

20 A. I calculated the dividend yield by using the Value Line estimate of
21 dividends to be declared over the next 12 months, divided by the
22 price of the stock as reported in the Value Line Summary and Index

1 for each week of the 13-week period from February 25, 2022,
2 through May 20, 2022. A 13-week averaging period tends to smooth
3 out short-term variations in the stock prices. This process resulted in
4 an average dividend yield of 3.2% for the comparable group is shown
5 in Hinton Exhibit 5.

6 **Q. HOW DID YOU DETERMINE THE EXPECTED GROWTH RATE**
7 **COMPONENT OF THE DCF?**

8 A. I employed the growth rates of the comparable group in earnings per
9 share (EPS), dividend per share (DPS), and book value per share
10 (BPS) as reported in Value Line over the past ten and five years. I
11 also employed forecasts of future growth rates as reported in Value
12 Line. The historical and forecasted growth rates are prepared by
13 analysts of an independent advisory service that is widely available
14 to investors and should also provide an estimate of investor
15 expectations. I included both historical, known growth rates and
16 forecast growth rates, because it is reasonable to expect that
17 investors consider both sets of data in deriving their expectations. I
18 should note that, in calculating an average or median growth rate, I
19 did not include negative historical growth rates in EPS, DPS, and
20 BPS. This is because, while negative growth rates are entirely
21 possible, they are generally not the basis for investor expectations
22 with utility investing.

1 Finally, I incorporated the consensus of various analysts' forecasts
2 of five-year EPS growth rate projections as reported in Yahoo
3 Finance. The dividend yields and growth rates for each of the
4 companies and for the average for the comparable group are shown
5 in Hinton Exhibit 5.

6 **Q. WHAT IS YOUR CONCLUSION AS TO THE INVESTOR RETURN**
7 **REQUIREMENT FOR CARDINAL BASED UPON YOUR DCF**
8 **ANALYSIS?**

9 A. Based on the results of my DCF analysis, I conclude that the investor
10 required rate of return for Cardinal is within the range of 9.28% to
11 9.38% with 9.33% as the single-best DCF-based cost of equity
12 estimate. The conclusion of my DCF analysis is shown in Hinton
13 Exhibit 8.

14 **B. RISK PREMIUM METHOD**

15 **Q. PLEASE DESCRIBE THE RISK PREMIUM METHOD BASED ON**
16 **COMMISSION-APPROVED ALLOWED RETURNS OF EQUITY.**

17 A. I used a regression analysis to analyze the historical relationship
18 between allowed returns on common equity and yields on utility
19 bonds. The regression analysis incorporates annual average allowed
20 returns for LDCs as reported by Regulatory Research Associates
21 (RRA) and the annual average single 'A' rated public utility bond
22 yields as reported by the Mergent Bond Record, which is a

1 publication that was previously owned by Moody's shown in Hinton
2 Exhibit 6, page 1 of 2.

3 **Q. WHAT DID YOU CONCLUDE FROM THE ANALYSIS OF**
4 **ALLOWED RETURNS AND UTILITY BOND YIELDS?**

5 A. Using the last six months of 'A' rated public utility bond yields, the
6 regression analysis provides a prediction of the current allowed
7 return of equity and the associated risk premium. Based on those
8 Moody's single "A" rated utility bonds yields and the regression
9 equation, the predicted return on common equity using recently
10 observed interest rates is 9.64% shown in my Exhibit 6, page 2 of 2.

11 **C. COMPARABLE EARNINGS METHOD**

12 **Q. PLEASE DESCRIBE THE CONCEPT BEHIND THE COMPARABLE**
13 **EARNINGS METHOD.**

14 A. The approach is based upon the Hope case cited earlier in my
15 testimony which maintains that an investor should be able to earn a
16 return comparable to the returns available on alternative investments
17 with similar risks. A central premise of the model is that the earned rate
18 of return is a good measure of the true cost of capital meaning that the
19 cost of capital is forward looking, representing the opportunity cost of
20 capital on a risk equivalent basis, as determined in the capital markets.

1 **Q. WHAT ARE SOME OF THE STRENGTHS AND WEAKNESSES**
2 **INHERENT IN THE COMPARABLE EARNINGS APPROACH?**

3 A. A strength of this method is that information on earned returns on
4 common equity is widely available to investors, and it is believed that
5 investors use earned returns as a guide in determining an expected
6 return on an investment. A weakness is that actual earned rates of
7 return can be impacted by items outside the company's control such as
8 with weather and inflation. Therefore, an inherent weakness in the
9 model is that the earned return may exceed or fall short of the cost of
10 capital during any given period.

11 **Q. PLEASE DESCRIBE YOUR COMPARABLE EARNINGS METHOD.**

12 A. I examined the earned returns on common equity as reported in Value
13 Line for the comparable group of local gas distribution for the last five
14 years. Value Line is widely available to investors and the return data is
15 easily gathered from these reports. As such, it is reasonable to assume
16 that such information influences investor expectations shown in Hinton
17 Exhibit 7.

18 **Q. WHAT DID YOU CONCLUDE FROM YOUR COMPARABLE**
19 **EARNINGS ANALYSIS?**

20 A. The average and the median earned returns on common equity
21 indicate that the cost of equity lies within the range of 8.80% and

1 9.51%. Thus, I maintain that this method is supportive of my DCF
2 and Risk Premium analyses.

3 **Q. WHAT IS YOUR RECOMMENDED COST OF EQUITY BASED ON**
4 **YOUR OVERALL STUDY?**

5 A. The results of my combined studies indicate a range of estimates
6 from a low of 9.28% to a high of 9.64%. Furthermore, I recommend
7 a 9.48% cost rate for common equity. The 9.48% is based on the
8 averaging of the 9.33% DCF estimate with my 9.64% Risk Premium
9 estimate shown in Hinton Exhibit 8.

10 **Q. TO WHAT EXTENT DOES YOUR RECOMMENDED RATE OF**
11 **RETURN ON EQUITY TAKE INTO CONSIDERATION THE IMPACT**
12 **OF CHANGING ECONOMIC CONDITIONS OF THE CUSTOMERS**
13 **OF PIEDMONT AND PSNC?**

14 A. I am not aware of a clear numerical basis for quantifying the impact
15 of changing economic conditions on customers when determining an
16 appropriate return on equity for purposes of setting rates for a public
17 utility. Rather, the impact of changing economic conditions
18 nationwide is inherent in the methods and data used in my study to
19 determine the cost of equity for utilities that are comparable to
20 Cardinal. I have reviewed certain information on the economic
21 conditions in the areas served by Piedmont and PSNC that will be
22 impacted by the return on equity in this proceeding. Specifically, I

1 have reviewed data on the per capita personal income from the
2 Bureau of Economic Analysis (BEA) and unemployment data from
3 the Bureau of Labor Statistics (BLS). The BEA data for the two
4 county service areas indicate that from 2017 to 2020, per capita total
5 personal income grew at an average annual growth rate of 4.3%⁶.
6 County-wide income data from the BEA is not available for 2021;
7 however, per capital income for North Carolina increased 7.9% in
8 2021. In addition, the BLS reports that the state's unemployment rate
9 fell to 3.4%⁷ in April 2022.

10 As discussed previously, the Commission's duty is to set rates as low
11 as reasonably possible consistent with constitutional constraints.
12 This duty exists regardless of the customers' ability to pay. Moreover,
13 the rate of return on common equity is only one component of the
14 rates established by the Commission. General Statute § 62-133 sets
15 out an intricate formula for the Commission to follow in determining
16 a utility's overall revenue requirement. It is the combination of rate
17 base, expenses, capital structure, and cost rates for debt and equity
18 capital, that determines how much customers pay for utility service
19 and investors receive in return for their investment. The Commission

⁶ Bureau of Economic Analysis, Table 1, Personal Income by County and Metropolitan Area, 2020, November 16, 2021.

⁷ Bureau of Labor Statistics, Economy at a Glance, <https://www.bls.gov/eag/eag.nc.htm#>

1 must exercise its best judgment in balancing the interests of both
2 groups. My analysis of the income and unemployment data indicates
3 that economic conditions are not unduly burdensome for the
4 customers of Piedmont's and PSNC's. As shown in the income and
5 unemployment data, overall economic conditions have significantly
6 improved from the height of the pandemic. Nonetheless, I maintain
7 that the recommended rate of return on equity will allow the
8 Company to properly maintain its facilities, provide adequate service,
9 attract capital on terms that are fair and reasonable to its customers
10 and investors, and result in rates that are just and reasonable.

11 **V. REVIEW OF COMPANY WITNESS HAAG'S TESTIMONY**

12 **Q. DO YOU HAVE ANY CONCERNS WITH COMPANY WITNESS**
13 **HAAG'S TESTIMONY?**

14 **A.** Yes. As previously noted, it is my understanding that the capital
15 invested in Cardinal represents an economic solution where PSNC
16 and Piedmont found it to be advantageous to join together and share
17 in the costs to construct and operate the Cardinal pipeline. In that,
18 the pipeline was not created to compete with interstate pipeline;
19 rather, it is an asset largely built to move capacity and storage
20 services off Transco to the Pine Needle facility and to preferred
21 locations within their respective service areas.

1 Thus, I find his proposed cost of common equity, cost rate for long-
2 term debt, and capital structure to be applicable to the cost of equity
3 for Transco and other interstate pipelines; however, I maintain that
4 the investment risk profile of Cardinal is not comparable to an
5 interstate pipeline company. This is indicated by the higher risk
6 measures with Company witness Haag's core group of companies
7 shown in Hinton Exhibit 9 relative to the LDCs shown in Hinton
8 Exhibit 4. While credit ratings are directly linked to the bond investor,
9 I believe that these ratings are also considered by equity investors,
10 especially regulated utility investors. As such, the lower quality bond
11 ratings and higher equity risk ratings with Company witness Haag's
12 core group indicate a higher level of investment risk that is not
13 warranted given the Company's unique ownership structure and
14 operating environment.

VI. SUMMARY AND RECOMMENDATIONS

Q. WHAT IS YOUR RECOMMENDED OVERALL RATE OF RETURN?

A. The recommended overall cost of capital is comprised of the long-term debt cost rate and the common equity cost rate, weighted according to the recommended capital structure. The result is a weighted overall cost of capital of 6.88%, as shown below and in Hinton Exhibit 10.

Cardinal Pipeline Company, LLC
Capital Structure
as of December 31, 2021

<u>Capital Item</u>	<u>Ratios</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long Term Debt	48.04%	4.06%	2.03%
Common Equity	51.96%	9.48%	4.91%
Total Capital	100.00%		6.88%

Pre-Tax Interest Coverage 4.3 times

Q. DID YOU PERFORM ANY TESTS OF REASONABLNESS WITH YOUR RECOMMENDED RETURN ON EQUITY AND OVERALL COST OF CAPITAL?

A. Yes. Based on the recommended capital structure and cost rates, the pre-tax times interest coverage ratio (TIER) is 4.3 times. In my opinion, a pre-tax coverage of this level would qualify as an "A" rating.

- 1 Q. DOES THIS CONCLUDE YOUR TESTIMONY?
- 2 A. Yes, it does.

QUALIFICATIONS AND EXPERIENCE

JOHN ROBERT HINTON

I received a Bachelor of Science degree in Economics from the University of North Carolina at Wilmington in 1980 and a Master of Economics degree from North Carolina State University in 1983.

I joined the Public Staff in May 1985 and have been involved in a variety of projects and testified in numerous dockets. Those projects include (1) developing the long-range forecasts of peak demand and energy sales for electricity in North Carolina in 1986, 1989, and 1992; (2) reviewing numerous peak demand and energy sales forecasts and the resource expansion plans filed in electric utilities' annual IRPs; (3) serving as the lead analyst for the Public Staff in numerous avoided cost proceedings and arbitration proceedings; (4) recommending the appropriate rate of return on equity and debt capital for water, local natural gas distribution and pipeline companies, and electric utilities; (5) performing a financial analysis of two audit reports on Mid-South Water Systems, Inc., filed in Docket No. W-100, Sub 21; (6) serving as a member of the Small Systems Working Group that reported to the National Drinking Water Advisory Council of the U.S. Environmental Protection Agency regarding the 1996 Safe Drinking Water Act; and (7) publishing an article in the National Regulatory Research Institute's Quarterly Bulletin entitled "Evaluating Water Utility Financial Capacity".

I have testified or filed affidavits in the dockets listed below.

<u>ISSUE</u>	<u>DOCKETS</u>
Long-range electric peak demand and energy forecast	E-100, Sub 50
Weather normalization of electricity sales	E-7, Subs 620 and 989 E-2, Sub 833
Customer growth adjustments	E-2, Sub 1023
Level of funding for nuclear decommissioning costs	E-2, Subs 1023 and 1219 E-7, Subs 1026 and 1146
Integrated Resource Plans	E-100, Subs 114 and 125
Avoided Costs for Biennial Proceeding	E-100, Subs 106, 136, 140, 148, and 158
Avoided Costs for energy efficiency and demand side management programs	E-7, Subs 1032 and 1130 E-2, Subs 1145 and 1174
Issuance of Certificates of Public Convenience and Necessity (CPCN) for electric generation	E-2, Sub 669 E-7, Subs 790, 791, and 1134 SP-132, Sub 0
Merger of Dominion Energy, Inc., and SCANA Corp.	E-22, Sub 551 G-5, Sub 585

Fair rate of return	E-22, Subs 333, 412, and 532 G-5, Subs 327, 386, and 632 G-9, Subs 351, 382, 722, and 781 G-21, Subs 293 and 442 P-12, Sub 89 P-26, Sub 93 P-31, Sub 125 P-100, Sub 133b P-100, Sub 133d (1997 and 2002) W-218, Subs 319, 497, and 526 W-354, Subs 360, 364, and 384 W-778, Sub 31 W-1300, Sub 60
Credit metrics and the risk of a downgrade	E-7, Sub 1146
Hedging of natural gas prices	E-2, Subs 1001, 1018, and 1031
Expansion of natural gas	G-5, Subs 337 and 372
Water utility CPCN transfer application	W-1000, Sub 5
Rainfall normalization with respect to water sales	W-274, Sub 160

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. G-39, SUB 46

DOCKET NO. G-39, SUB 47

July 5, 2022

DOCKET NO. G-39, SUB 46)	
)	
In the Matter of)	
Cardinal Pipeline Company, LLC	)	SETTLEMENT
Depreciation Rate Study as of	)	TESTIMONY OF
December 31, 2020	)	JOHN R. HINTON
	)	PUBLIC STAFF – NORTH
DOCKET NO. G-39, SUB 47	)	CAROLINA UTILITIES
	)	COMMISSION
In the Matter of)	
Application of Cardinal Pipeline)	
Company, LLC, for an Adjustment of)	
Rates and Charges in North Carolina)	

OFFICIAL COPY

Jul 14 2022

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**DOCKET NO. G-39, SUB 46****DOCKET NO. G-39, SUB 47****SETTLEMENT TESTIMONY OF JOHN R. HINTON
ON BEHALF OF THE PUBLIC STAFF –
NORTH CAROLINA UTILITIES COMMISSION****July 5, 2022**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND**
2 **PRESENT POSITION.**

3 A. My name is John R. Hinton. My business address is 430 N. Salisbury
4 Street, Dobbs Building, Raleigh, North Carolina. I am Director of the
5 Economic Research Division of the Public Staff – North Carolina
6 Utilities Commission (Public Staff).

7 **Q. ARE YOU THE SAME JOHN R. HINTON THAT FILED DIRECT**
8 **TESTIMONY AND EXHIBITS ON RATE OF RETURN AND**
9 **CAPITAL STRUCTURE ON JUNE 10, 2022?**

10 A. Yes, I am.

11 **Q. WHAT IS THE PURPOSE OF YOUR SETTLEMENT TESTIMONY**
12 **IN THIS PROCEEDING?**

13 A. The purpose of my settlement testimony is to support the Settlement
14 Agreement and Stipulation (Agreement) between Cardinal Pipeline
15 Company, LLC (Cardinal or the Company) and the Public Staff

1 (collectively, the Parties), as it relates to the cost of capital and capital
2 structure to be used in setting rates in this proceeding.

3 **Q. WHAT IS THE COST OF CAPITAL IN THE SETTLEMENT?**

4 A. The Public Staff and the Company have agreed to a 7.34% overall
5 cost of capital in this proceeding. The overall cost rate is comprised
6 of a 9.55% rate of return on common equity (ROE), and a 4.96% cost
7 rate of long-term debt, which is combined with a hypothetical capital
8 structure consisting of 51.96% common equity and 48.04% long-
9 term debt.

10 **Q. WHAT IS YOUR EXPERIENCE WITH AND UNDERSTANDING OF**
11 **SETTLEMENTS IN SIMILAR GENERAL RATE CASE**
12 **PROCEEDINGS?**

13 A. It has been my experience that settlements are generally the result
14 of good faith “give and take” and compromise-related negotiations
15 among the parties to utility rate proceedings. Settlements, as well as
16 the individual components of the settlements, are often achieved by
17 the respective parties’ agreements to accept otherwise unacceptable
18 individual aspects of individual issues in order to focus on other
19 issues. Some settlements result in a “global” resolution of all the
20 issues that would otherwise be litigated in a rate proceeding while
21 others are restricted to resolution of one or more individual issues.
22 The Settlement in this proceeding is global with respect to the
23 contested issues identified by the Public Staff.

1 Q. DID YOU PARTICIPATE IN THE NEGOTIATIONS LEADING UP
2 TO THE SETTLEMENT IN THIS PROCEEDING?

3 A. Yes, I participated in the negotiations leading up to the Settlement.

4 Q. DO YOU AGREE THAT THE COST OF CAPITAL COMPONENTS
5 OF THE PROPOSED SETTLEMENT ARE REASONABLE WITHIN
6 THE CONTEXT OF THE OVERALL SETTLEMENT?

7 A. Yes, I do. As with other settlements, the Settlement cost of capital
8 components in this proceeding represent a compromise by both
9 Parties in an effort to reach agreement. Furthermore, the Settlement
10 cost of capital components are the result of good faith negotiations
11 and compromises.

12 I note that it remains my position that, should this be a fully litigated
13 proceeding, I would continue to recommend a hypothetical capital
14 structure with 51.96% common equity, and 48.04% long-term debt,
15 an ROE of 9.48%, and a cost of long-term debt of 4.06%. However,
16 given the benefits associated with entering into a settlement, it is my
17 view that the cost of capital components of the Settlement are a
18 reasonable resolution of otherwise contentious issues.

1 **Q. PLEASE EXPLAIN WHY THE SETTLED CAPITAL STRUCTURE**
2 **RATIO IS REASONABLE.**

3 A. The settled capital structure is reflective of approved common equity
4 ratios for general rates cases involving local natural gas distribution
5 utilities. The settled 51.96%.¹ common equity ratio is based on
6 approved equity ratios from January 1, 2020, through March 31,
7 2022, as addressed in my prefilled direct testimony. Furthermore, the
8 North Carolina Utilities Commission (Commission) approved similar
9 common equity ratios in the last two natural gas general rate cases
10 involving Piedmont Natural Gas Company, Inc. (PNG) in Docket No.
11 G-9, Sub 781 and Public Service Company of North Carolina, Inc.
12 (PSNC) in Docket G-5, Sub 632. In addition, the Commission has
13 approved similar capital structures in recent general rate cases
14 involving Dominion Energy North Carolina (DENC), Duke Energy
15 Carolinas, LLC (DEC), and Duke Energy Progress, LLC (DEP) as
16 shown below:

¹ This calculation excludes the decisions of four states – Arkansas, Florida, Indiana, and Michigan – because these jurisdictions include deferred taxes and other non-capital items in the approved capital structure. As such, those approved equity ratios are not comparable to those used in North Carolina ratemaking and would bias the average equity ratio downward.

Company	Docket	Order Date	NCUC Approved Equity Ratio
DENC	E-22, Sub 562	2/24/2020	52.00%
DEC	E-7, Sub 1214	3/31/2021	52.00%
DEP	E-2, Sub 1219	4/16/2021	52.00%
PNG	G-9, Sub 781	1/6/2022	51.60%
PSNC	G-5, Sub 632	1/21/2022	51.60%

1 **Q. PLEASE COMMENT ON THE SETTLEMENT AS IT RELATES TO**
2 **THE COST RATE OF DEBT.**

3 A. The Company and Public Staff have fundamentally different views of
4 the risk comparability of Cardinal which impacts the Company's
5 proposed cost of long-term debt as well as the cost rate for common
6 equity. For this Settlement, the Public Staff and the Company have
7 agreed to use the 135 basis point spread approach that I
8 recommended and a recently observed yield of five-year treasury
9 bonds of 3.61%². The combination of the 135-basis point spread and
10 the 3.61% yield generated a reasonable cost of debt of 4.96% as
11 noted in the Rebuttal Testimony of Company witness David J. Haag.

² Federal Reserve Bank of St. Louis, FRED, "Market Yield on U.S. Treasury Securities at 5-Year Constant Maturity." June 14, 2022.

1 **Q. PLEASE COMMENT ON THE SETTLEMENT, PARTICULARLY**
2 **AS IT RELATES TO THE RATE OF ROE.**

3 A. The Company and Public Staff have fundamentally different views of
4 current market conditions and the current cost of common equity.
5 The Settlement ROE of 9.55% falls below the Company witness
6 Haag average Discounted Cash Flow and Capital Asset Pricing
7 Model estimates, but the rate is within my range of cost rates for
8 common equity of 9.28% to 9.64%, as shown in Public Staff Hinton
9 Exhibit 8. The Company and the Public Staff continue to disagree on
10 whether Cardinal's investor-related risk is that of an interstate
11 pipeline company or a local natural gas distribution utility.
12 Nonetheless, the Public Staff and Cardinal have found a way to
13 bridge their differences, which results in a reasonable Settlement
14 ROE.

15 **Q. ARE THE OVERALL COST OF CAPITAL AND ITS COMPONENTS**
16 **A REASONABLE RESULT?**

17 A. Yes. The settled overall cost of capital of 7.34% is reasonable as
18 shown in Public Staff Hinton Settlement Exhibit I. The higher cost
19 rate of long-term debt reduced the pre-tax coverage ratio which was
20 partially offset by the higher rate of return on common equity. The
21 settled cost of capital reflects a pre-tax interest coverage ratio of 3.7
22 times. In my opinion, this ratio would qualify for a debt rating of "A."
23 As previously noted, the Settlement overall cost of capital represents

1 a reasonable middle ground between the original positions of the
2 Public Staff and the Company. In addition, the agreement on the
3 9.55% ROE, 4.96% cost of debt, and capital structure embodied in
4 the Settlement occurred in the context of various compromises by
5 both Parties on these issues.

6 **Q. DOES THIS CONCLUDE YOUR SETTLEMENT TESTIMONY?**

7 **A.** Yes, it does.

QUALIFICATIONS AND EXPERIENCE**JOHN ROBERT HINTON**

I received a Bachelor of Science degree in Economics from the University of North Carolina at Wilmington in 1980 and a Master of Economics degree from North Carolina State University in 1983.

I joined the Public Staff in May 1985 and have been involved in a variety of projects and testified in numerous dockets. Those projects include (1) developing the long-range forecasts of peak demand and energy sales for electricity in North Carolina in 1986, 1989, and 1992; (2) reviewing numerous peak demand and energy sales forecasts and the resource expansion plans filed in electric utilities' annual IRPs; (3) serving as the lead analyst for the Public Staff in numerous avoided cost proceedings and arbitration proceedings; (4) recommending the appropriate rate of return on equity and debt capital for water, local natural gas distribution and pipeline companies, and electric utilities; (5) performing a financial analysis of two audit reports on Mid-South Water Systems, Inc., filed in Docket No. W-100, Sub 21; (6) serving as a member of the Small Systems Working Group that reported to the National Drinking Water Advisory Council of the U.S. Environmental Protection Agency regarding the 1996 Safe Drinking Water Act; and (7) publishing an article in the National Regulatory Research Institute's Quarterly Bulletin entitled "Evaluating Water Utility Financial

Capacity”.

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Expansion of natural gas	G-5, Subs 337 and 372
Water utility CPCN transfer application	W-1000, Sub 5
Rainfall normalization with respect to water sales	W-274, Sub 160

1 Q. Mr. Hinton, did you prepare a summary of your
2 testimony?

3 A. Yes, I did.

4 Q. Please read it for us.

5 A. On June 10, 2022, I filed direct testimony in
6 this proceeding to present to the Commission my
7 recommendations as to the reasonable cost of capital to
8 be used as the basis for adjusting Cardinal Pipeline's
9 rates. As a result of my analysis, I conclude that the
10 overall cost of capital to Cardinal is 6.88 percent.

11 The aforementioned cost of capital is based upon a
12 capital structure comprised of 48.04 percent long-term
13 debt and 51.96 percent common equity, a cost rate of
14 common equity of 9.48 and a cost rate of debt of 4.06.

15 On July 5, 2022, I filed settlement testimony
16 to support the settlement agreement and stipulation
17 settlement between Cardinal, Piedmont Natural Gas
18 Company, Public Service -- Public Service Company of
19 North Carolina and the Public Staff, collectively known
20 as the stipulating parties, with respect to the
21 7.34 percent overall cost of capital shown in Hinton
22 Settlement Exhibit Number 1. The settlement cost of
23 capital is based upon the Public Staff's recommended
24 capital structure ratios, a negotiated cost rate of

1 common equity of 9.55 percent, and a negotiated debt
2 cost rate of 4.96 percent.

3 In my opinion, the overall cost of capital
4 will provide a return to the owners of Cardinal that is
5 both reasonable and appropriate, in that it affords the
6 opportunity for the debt investors and equity investors
7 of Cardinal to earn a reasonable return while being
8 fair to customers.

9 This concludes my summary.

10 Q. Thank you.

11 MS. HOLT: The witnesses are available
12 for questions of the Commissioners.

13 COMMISSIONER KEMERAIT: Thank you. I
14 moved a little too quickly before, so I will begin
15 again with questions.

16 EXAMINATION BY COMMISSIONER KEMERAIT:

17 Q. The Commission has, I think, two lines of
18 questions that we're particularly interested in. And
19 the first line of questions I think is gonna be
20 directed mostly to you, Mr. Hinton, and it relates to
21 the negotiated cost rate of common equity of the
22 9.55 percent in the settlement agreement and
23 stipulation. And I will get to that question -- those
24 questions in just a minute, but the context of it is

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1 that we're looking to receive the analysis of the
2 Public Staff about the level of risk to Cardinal and to
3 ensure that the rates will be as low as reasonably
4 possible and also just and reasonable.

5 And then the second line of questions is
6 gonna be to the entire panel, and it relates to the
7 depreciation amount. And we are particularly
8 interested in a better understanding of the Public
9 Staff's analysis that Cardinal's asset will be retired
10 and decommissioned by 2050. So those are, kind of, the
11 two lines of questioning that we're gonna be asking
12 about.

13 And more of a minor question that we're gonna
14 begin with relates to something that we noticed in the
15 testimony that might -- we may need to have a
16 late-filed exhibit about, but on pages 8 and 9 of the
17 settlement agreement and stipulation that was filed
18 with the Commission on July 5, 2022, it stated that the
19 regulatory fee was to be calculated at 0.13 percent.
20 And I think, as the panel knows, the cost to operate
21 the Commission and the Public Staff, the Commission
22 issued an order on July 30th of 2022, in Docket Number
23 M-100, Sub 142, and that order raised the regulatory
24 fee effective July 1, 2022. And the order stated that

1 the regulatory fee for noncompetitive jurisdictional
2 revenues is to be set at 0.14 percent effective
3 July 1, 2022.

4 And since we noticed that the regulatory fee
5 in the settlement agreement is set at 0.13 percent,
6 will the -- have the parties considered that and could
7 file a late-filed exhibit with that correction?

8 A. (Sonja Johnson) Yes, we could. We could
9 probably file a late-filed exhibit.

10 Q. Thank you.

11 MR. KAYLOR: The Company would have no
12 objection to that request also.

13 COMMISSIONER KEMERAIT: Okay. Thank
14 you.

15 Q. So, Mr. Hinton, I'll begin with you. Again,
16 this relates to the ROE and the cost of capital. And
17 one of the differences that the Commission noted
18 between your direct testimony and the direct and
19 rebuttal testimony of Cardinal's witnesses was the
20 companies that should be part of the proxy group -- and
21 I believe it's the Public Staff's position that the
22 proxy group should be comprised of the LDCs, rather
23 than the interstate natural gas pipeline companies as
24 advocated by Cardinal, and can you explain why the

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1 Public Staff believes that the LDCs are more
2 appropriate to be in the proxy group than Cardinal's
3 position?

4 A. (John R. Hinton) Yes. The core reason is
5 competitiveness. The LDCs for the transmission-related
6 functions have no risk to speak of. They have
7 operating risk and business risk, but they don't have
8 competitive risk. The interstate pipeline business is
9 chiefly competitive. I mean, if you look at a map of
10 interstate pipelines across the country, especially
11 down in the southern part of the country, it's a maze
12 of different pipelines. So when pipelines contract
13 with shippers, you know, they -- it's on a negotiated
14 basis at times.

15 You know, they have contracts, naturally,
16 but -- but to get that contract, there may be some
17 negotiations going on, and that's been my understanding
18 for years with regard to interstate business. But this
19 pipeline that is intrastate does not have any, quote,
20 competitive risk from a competitive pipeline.

21 Now, I've often said that if ACP had been
22 built, that could have posed some risk. Of course, the
23 owners of Cardinal are the shippers, and as I say in my
24 testimony, this simple fact cannot be overlooked. But

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1 that pipeline has been canceled for some time now. The
2 role of Mountain Valley Pipeline is still uncertain,
3 and then its proximity will not necessarily cross a
4 line of Cardinal. It would have to be another pipeline
5 addition that's being contemplated by various parties
6 before that could ever be built, assuming Mountain
7 Valley Pipeline connected with Transco in the Virginia
8 border -- near the Virginia border. So all of this is
9 uncertain and not reasonable, as far as I'm concerned,
10 with regard to following the Commission -- the
11 Company's witness Haag's recommendation that it's
12 interstate pipeline.

13 I've heard these arguments for -- I think
14 this is the fourth Cardinal case I've worked on, and
15 they have been raised every time. And one of the
16 graphs I had in my testimony, the confidential one and
17 the non-confidential one -- or the confidential one
18 shows a response to the Company regarding its
19 competition, within -- geographic competition, that is.
20 And when I compared it to what was asked, the same
21 question back in 2011 or '12, I had the same map. So
22 there is no difference. In other words, competitive
23 landscape with regard to active competitive interstate
24 pipelines has not changed. The fact that it's not

1 foreseeable to change gives -- guards me to say it's
2 not an interstate pipeline company. It doesn't have
3 the risk profile. Industries coming to invest in
4 Cardinal, they would not excuse the returns that would
5 be commensurate with the interstate pipeline.

6 I went a little further to this case versus
7 other cases. I actually looked at the O&M cost of this
8 pipe. As noted in my testimony, I had some data
9 information obtained in a Piedmont rate case that
10 looked at the original Sandhills Pipeline that runs out
11 of Transco near Charlotte down to -- ultimately down to
12 Wilmington. I think it's near the Rockingham area.
13 The old Carolina Power Light Rockingham unit is now
14 considered Duke Energy Progress. Yeah.

15 And so that pipeline, we had detailed cost
16 information on that line, as far as the cost for O&M.
17 They were not -- and when I did my analysis, I saw no
18 significant differences in the cost of O&M, plus I
19 talked with personnel with the Commission's pipeline
20 and safety, and -- about operating pressures on the
21 transmission legs of the LDCs versus Cardinal. And I
22 was told -- excuse me, my understanding is that the
23 operating pressures are similar.

24 And so I looked at -- so I tried to look at

1 it from both a competitive person, if you were
2 investing in the Cardinal LDC, and I looked at it from
3 just a plain old business risk, and I could not see a
4 significant difference in those parameters.

5 When we do rate of return testimony, the
6 ultimate risk measure's the investment risk, but
7 investment risk is often a function of business risk
8 and financial risk, and things get murky at the time,
9 and so -- but when I look at investment risk -- and
10 there is no risk measure that's perfect, that really
11 perceives the -- or represents the investor's thinking.
12 And that's why there is a host of measures, as I
13 present in my testimony.

14 So you will see in my Exhibit 9, I believe, I
15 showed the investor-related risk, things from value
16 line, and risk measures from quality of earnings and
17 dividends, and then the credit ratings by Moody's and
18 S&P. And it's clear that the investment risk
19 associated with the pipeline company represented by
20 witness Haag's core group is significantly different
21 and more risky from that perspective as compared to the
22 LDCs. And even going back to an old conversation I had
23 years ago with Jeff Davis, and where we, kind of,
24 discussed how Cardinal was created and why it was

1 created, and it could have easily been an LDC function,
2 but it was a joint venture with Public, Piedmont, and
3 Transco. So I still see it as more of an investment
4 risk associated with an LDC as opposed to the
5 interstate pipeline company.

6 Q. Mr. Hinton, you just referred to Jeff Davis.
7 For the record, can you -- can you tell --
8 state who -- who Jeff Davis is?

9 A. Yes. Jeff Davis was previously the director
10 of natural gas division for the Public Staff.

11 Q. Thank you, Mr. Hinton. That explanation was
12 very helpful, and I think it leads to the issue that we
13 were really looking at, which is the level of risk,
14 because the level of risk is important for determining
15 what the rate of return is going to be.

16 And for the level of risk is, really, the
17 crux of the concern about whether the shippers will
18 renew their contracts with Cardinal? Is that the, kind
19 of, the crux of the issue for risk from your -- from
20 the Public Staff's perspective?

21 A. That's a major determinant, yes, because
22 it's -- the shipping risk is how this company receives
23 its income. And, of course, as I note in my testimony,
24 revenues are functions, largely, it's demand charges,

1 so it's a very stable flow of revenue. But yeah,
2 obviously, has only one business line, that's to move
3 natural gas. So that's its core function and core
4 investment returns are derived from that service.

5 Q. Thank you, Mr. Hinton. And following up on
6 that, what is your position about the level of risk to
7 Cardinal that these shippers would not renew their
8 contracts?

9 A. Very limited, because the shippers -- the
10 shippers are Public and Piedmont Natural Gas, the two
11 owners. So it makes that relationship somewhat cloudy
12 and questionable, but it definitely takes away the
13 incentive to maybe go to an alternative pipeline
14 shipper. So, you know, as long as there is business
15 and need of gas being pushed down from the
16 interconnection with Transco down to Clayton, then
17 they'll be -- there'll be business and revenues
18 obtained by Cardinal from both Public and Piedmont.

19 Q. Thank you, Mr. Hinton. Related -- related to
20 this issue, can you -- can you talk a little bit about
21 whether Cardinal does have some risk, because it is --
22 it doesn't have an exclusive franchise to serve its
23 customers.

24 Is that something you considered and you

1 would view as a greater level of risk that was analyzed
2 in your determination of the ROE?

3 A. I have to agree that having a franchise
4 territory is a great risk reduction, and that's why
5 utilities are singled out separately from nonutility
6 companies, in my opinion. It's that franchised
7 territory. But given that the owners are -- have
8 franchised rights, meaning Piedmont and Public, that
9 kind of, again, clouds that issue of whether they do or
10 do not have franchised rights. Legally, they do not
11 have franchised rights, I understand that, but why
12 would -- the question I put forth in my testimony, I
13 don't see it as in the personal self-interest of
14 Piedmont nor Public to go to an alternative shipper
15 unless it was -- somehow the shipper came in with rates
16 that were significantly lower. And then that would be
17 a prudence issue. But even that becomes a hard one to
18 comprehend, because any new pipeline that comes into
19 this area is gonna have to charge rates that are gonna
20 be undoubtedly higher than Cardinal's, because Cardinal
21 does work on an imbedded cost structure. And these new
22 pipelines come in, you know, they have to charge rates
23 commensurate with the current cost of steel pipelines,
24 the current insulation costs, labor costs, and current

1 returns on capital. So I don't see -- I don't see how
2 an upstart pipeline company would have a -- it could.
3 I'm not saying it can't, of course, because we --
4 competition generally favors the consumer, but in this
5 narrow conversation, I don't see it as a reasonably --
6 as a reasonable expectation I would take into
7 consideration in lowering my ROE.

8 Q. Mr. Hinton, in your testimony, when
9 considering the ROE, you discussed how changing
10 economics should be considered in the ROE analysis, and
11 did you provide any analysis or have any thoughts about
12 whether Cardinal bears some greater risk related to the
13 current volatility of natural gas prices?

14 A. Okay. Let me make sure I'm focusing on it.
15 So does the volatility of natural gas prices -- is that
16 a factor in my evaluation?

17 Q. Right. Because I believe in your testimony
18 you talked about changing economics --

19 A. Yeah.

20 Q. -- should be considered, and so is the
21 volatility of the price of natural gas, where the
22 natural gas price is substantially higher, was that any
23 part of your analysis?

24 A. No, not -- when I look at changing current

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1 conditions, that's largely -- I mean, if you go back in
2 my testimony from 30 years ago, you'll find I talk
3 about present financial conditions, which is in regard
4 to the state laws, I believe. And then we enhance that
5 over the years, and now we have a section in my
6 testimony that looks at changing economic conditions
7 and how that could impact the delivery of service. I
8 don't see the change in economic conditions exists, as
9 we are currently in, as reason to change my ROE
10 recommendation.

11 Q. Okay. Thank you. And then since your
12 position or conclusion is that Cardinal bears little
13 risk in not having the contracts renewed, can you
14 explain how that position was taken into account when
15 you reached the compromise for the ROE of 9.55 percent?
16 Help us understand how there is no inconsistency and
17 that the 9.55 percent negotiated percentage is
18 consistent with the Public Staff's position about
19 little risk.

20 A. It's largely just where we went to, where we
21 came from. I mean, this is negotiations. And the
22 Company had a prefiled position of great excess of
23 10 percent of ROE, if I recall, and my prefiled
24 position, 9.48. So in settling the positions between

1 the parties, there is always give and take, as you
2 understand. And I think -- and my personal appraisal,
3 the give the Public Staff gave in representing the
4 customer's interest was relatively small. I have seen
5 bigger stipulations in the past where more was given
6 up. I don't mean to -- but it was.

7 The one item that you should be aware of is
8 the cost of debt. That was -- that was -- that's part
9 of it, so. Bundle stipulation of all the issues. The
10 cost of debt was clearly one item. The cost of debt
11 that we agreed on was based on a spread approach that I
12 think is a reasonable approach to do when you have to
13 come up with a cost rate that doesn't officially exist
14 because they have no debt. They officially have no
15 long-term debt on their books. They have short-term
16 debt but not long-term debt. So I had to impute both
17 the level of the percent of the account but also had to
18 derive a reasonable cost rate for debt.

19 In doing that, I went back to the previous
20 issue, which was an issue -- typically issue debt on
21 five-year levels, five-year notes, and I got the
22 pricing data for that particular issue, and I looked at
23 the spread on that particular day, and that's my 135
24 basis point. Okay. So I originally filed the 135

1 basis points. At that time, the current cost --
2 current yield on five-year treasurer maturities was --
3 to be honest, I have to look back and find it. It was
4 what's in my testimony. And rates have gone up. So we
5 settled on -- the spread rate was 3.61 percent was what
6 we based the new rate on. It was a relatively high
7 point in the five-year treasurers. So I felt, to be
8 honest with you, that was a little bit of -- I gave on
9 the Public Staff side. So I'm giving you some
10 background on gives and takes. But overall, that -- I
11 still find out, in general, by coming to the
12 Commission, that the Public Staff represented the
13 consumer well, and if nothing else, just looking at the
14 distance that the Public Staff went to for final
15 settlement, and I applaud the Company for being
16 acceptable of reasonable compromise.

17 Q. Thank you, Mr. Hinton. That's helpful.
18 Moving on to a different question that relates to some
19 of your comments about new pipelines potentially being
20 constructed in North Carolina, and I wanted to see if
21 you or the Public Staff is aware of the recent May 2022
22 filing with FERC in Docket Number CP22-461 in which
23 Transcontinental Gas Pipeline Company filed an
24 application for a CPCN seeking to -- authorization to

1 construct and operate its southside reliability
2 enhancement project to provide an additional 423,000
3 dekatherms per day of firm transportation service
4 under a contract to Piedmont beginning in the
5 2024/2025 winter heating season.

6 So that's a long question, but are you
7 familiar with that docket at FERC?

8 A. And you're talking about -- let me clarify.
9 You're talking about the lateral that runs north in
10 Virginia and dips into North Carolina in the
11 northeastern section of the state?

12 Q. That is correct.

13 A. Yes, I was aware of that.

14 Q. And in regard to risk and the risk for
15 contracts not being renewed, did that application for
16 CPCN, did that impact your assessment of risk?

17 A. No, it didn't.

18 Q. Okay. And why is that?

19 A. Largely because it's -- it's not
20 geographically in the same area. So there is no
21 pipeline crossing Cardinal's lines associated with that
22 particular application. There are other avenues
23 available to interstate pipeline companies that go
24 beyond my full understanding of the business, but I did

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1 not perceive that lateral as being enough of an
2 enhancement to the competitive level of risk that
3 Cardinal faces. I didn't.

4 Q. Thank you, Mr. Hinton. That's all the
5 questions that I have about this topic, and I think
6 before we move on to the issue about depreciation, I'd
7 like to pause here and see if the other Commissioners
8 have any questions on this topic.

9 CHAIR MITCHELL: Just one follow-up if I
10 may.

11 EXAMINATION BY CHAIR MITCHELL:

12 Q. Mr. Hinton, you talked some about -- you
13 know, you compared the business risk and the investment
14 risk of Cardinal to interstate pipelines and to the
15 LDCs, and I follow your testimony there, but talk a
16 little bit more about Cardinal compared to our LDCs --
17 to our two big LDCs here. The -- you -- is it a fair
18 comparison -- let me back up.

19 The rate of return on equity that has been
20 agreed to here in the settlement is sort of in the
21 ballpark as to the ROEs that were awarded in the most
22 recent gas cases, and I understand different time,
23 different market conditions, sort of, but putting that
24 on the shelf for a minute, is it a fair comparison to

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1 make? Help me understand why there -- why they -- why
2 those three companies -- Cardinal, Piedmont, and
3 PS&C -- should be awarded ROEs that are in the same
4 ballpark.

5 A. (John R. Hinton) That -- actually, I
6 contemplated that question, because I relate it to
7 comparing the T&D function of a wireless company in the
8 electric industry. You'll often find, if you look at
9 ROE, there is a lowering of risk associated with
10 vertical -- excuse me, with the T&D company relative to
11 a vertically integrated company. If you are a T&D
12 carrier, your ROE is gonna be 50 basis points less than
13 what you would normally expect for a vertically
14 integrated company like Duke Energy.

15 So I wanted to -- and if I had my druthers, I
16 would have liked to have been able to say the
17 investment risk profile of Cardinal is more akin to the
18 transmission-related risk of an LDC, with the
19 assumption that that risk level is less than the
20 vertically integrated company known as LDC, or Public
21 or Piedmont for that matter.

22 However -- and, you know, I just could not
23 quantify that. And in trying to -- I hesitate to get
24 up here and say that because of this aspect, regulatory

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1 policy is different, that they get a lower risk -- a
2 lower ROE. In my mind, I think the
3 transmission-related risk associated with Cardinal is
4 less than on the LDC, but I was at loss to quantify it.
5 I don't have comparable measures, I haven't studied
6 the -- the investment community's view of a pipes-only
7 company. All I can think of is Atlanta Gas Light years
8 ago had third-party marketing, so they probably had a
9 pipes-only rate, but I just -- it's not enough of a
10 collective thought process that would say I can look to
11 this as an indication of how much less risk that
12 investment would require for a pipeline company --
13 intrastate pipeline company such as Cardinal. So
14 without having that kind of market-related data, I was
15 at loss to say it's less. So in my testimony I did
16 say, as you probably noted, I considered it to be
17 related to the risk of a transmission function of an
18 LDC, but I just couldn't quantify it, so that's why.

19 Q. Okay. All right. Thank you. Thank you for
20 that response.

21 COMMISSIONER KEMERAIT: So I'm gonna
22 move on to the next topic, which is depreciation,
23 and -- and Cardinal's intent to retire and
24 decommission its asset by 2050, and I think these

1 questions can be directed to whoever on the panel
2 is best able to answer the question.

3 FURTHER EXAMINATION BY COMMISSIONER KEMERAIT:

4 Q. And so the first question, I'm gonna give a
5 little bit more context before I ask the question, but
6 beginning on pages 27 and 28 of Cardinal witness Fall's
7 testimony, he states the following, and I'll quote.

8 "On October 29, 2018, North Carolina Governor
9 Roy Cooper signed Executive Order 80 calling for a
10 40 percent reduction in state house" -- excuse me --
11 "statewide greenhouse gas emissions by 2025, and also
12 to reduce electric power sector greenhouse gas
13 emissions by 70 percent below 2005 levels by 2030 and
14 attain carbon neutrality by 2050." And then, "In
15 addition, on January 27th of 2021, U.S. President Biden
16 issued Executive Order 140083."

17 And then in the testimony, the Public Staff's
18 Exhibit RMM-1, the Public Staff provides an assumption
19 that there will be an end of life for the assets and
20 end of life would be 2050. And so the depreciation
21 seems to be based upon the expectation that Cardinal's
22 assets will be fully retired by 2050 and
23 decommissioned. And so that's the context.

24 But moving on from that, is the panel aware

1 that, in the Commission's Carbon Plan docket, which is
2 E-100, Sub 179, that that remains open and is pending
3 with the Commission?

4 A. (John Hinton) Yes.

5 Q. Of course. And how is Cardinal proposing and
6 the Public Staff agreeing to these depreciation rates
7 with an end of life for the asset of 2050 when the
8 Commission has not yet made that determination in
9 the -- in the docket? In other words, I'll -- maybe
10 I'll refine my question a little bit.

11 Did the Public Staff provide an analysis
12 about whether it's appropriate to assume that
13 Cardinal's asset will be retired by 2050? Did you
14 provide an analysis and make some sort of a
15 determination about the end of life for the asset?

16 A. (Sonja R. Johnson) What we relied upon was
17 the expertise of the Public Staff witness McCullar, her
18 going through the depreciation study that was filed by
19 Cardinal. We relied upon her expertise. We accepted
20 it. Based upon discussions that we current -- well, we
21 recently had with her, she considered it. She asked
22 questions of the Company. She determined that, given
23 the -- I guess the conditions that were placed into the
24 study, and I guess their end of life that they put into

1 the depreciation study, which was really just to
2 determine the rates that they were going to use, she
3 was good with it. We had no issue with what was the
4 recommendation of our expert witness.

5 Q. And I recognize that the witness is not here
6 on the panel, so what you're able to answer, please do,
7 and if it's not your -- tell me you can't answer, I
8 recognize we don't have her here.

9 But if we were not to accept that the end of
10 life for Cardinal's asset would be -- would be 2050,
11 would the Public Staff's depreciation amount, would
12 that change, if the -- if we believed that a 2050
13 retirement date would not be appropriate?

14 A. Based on the past couple of depreciation
15 studies that Cardinal has filed, they always used
16 depreciation or useful lives that did not explicitly
17 state a 2050 end date, but it was inferred, I guess you
18 would say, so we had no issue with it. It was
19 consistent with what was filed in the past and what was
20 accepted by the Public Staff. So we had no issue with
21 it. So it was accepted in this case.

22 Q. So there was no separate analysis about what
23 a different depreciation amount would be if there was
24 not the 2050 end-of-life date?

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1 A. I guess just recently we looked at maybe, if
2 it wasn't an end of life, and it was not dramatically
3 different. It was miniscule, the difference. And we
4 would be happy to provide a late-filed exhibit with
5 that analysis for you.

6 Q. That would be helpful, if we could get a
7 late-filed exhibit.

8 And then related to the 2050 date, has
9 either -- so Piedmont and PS&C are the two customers of
10 Cardinal, correct?

11 A. Correct.

12 Q. And is the Public Staff aware of whether
13 Piedmont or PS&C has given notice to the Public Staff
14 that they -- that they intend to cease operations by
15 2050, or how they were going to get this natural gas to
16 their customers after 2050? Has there been any
17 information related to this issue about what will
18 happen after 2050?

19 A. No. Because again, this was just strictly an
20 assumption that was used in the depreciation study to
21 determine depreciation rates.

22 Q. And has the -- that's helpful, and I
23 appreciate that.

24 Related to that question, has the Public

1 Staff received any information for Cardinal or Piedmont
2 or PS&C that if the Cardinal pipeline is not used for
3 natural gas after 2050, whether it could be used for
4 other -- other resources like hydrogen or renewable
5 natural gas?

6 A. (Neha Patel) So we did request the Company,
7 and the Company mentioned that they could potentially
8 look into blending hydrogen, renewable natural gas into
9 the pipelines. But this, again, is all in the initial
10 study phase.

11 Q. Okay. Thank you.

12 A. (John R. Hinton) I would like to add to
13 that. I've been around IRPs for quite some time, and
14 it's -- 2050 is a long ways away, and to make a
15 decision now based on 2050, even with this initial
16 carbon land, is speculative. There just needs to be a
17 little more time. There is a lot of SMRs and small
18 nuclear reactors and other assumptions that are in the
19 IRP that have yet to be flushed out. So the ultimate
20 plan is far from certain, but it's great that we have a
21 great plan. I'm not dismounting -- discrediting that
22 process. I'm just saying we need to plan, but the
23 actual plan is going to be far different, I expect.

24 Q. And I think for purposes of our questions,

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1 having the late-filed exhibit, I think, will provide
2 quite a bit of information about really, kind of, the
3 impact of that date and how it -- how it affects the
4 settlement. So I think that will be very helpful.

5 And I'm going -- I've received a question
6 that I'm going to read from the Commission staff that's
7 somewhat detailed, but in Cardinal's 2020 depreciation
8 study that was filed in G-39, Sub 46, which is called
9 Account 367, it says that mains have an average service
10 life of 75 years, and its average life is 16 years, and
11 the average remaining service life is stated as just
12 under 29 years. So if we assume that Cardinal retires
13 the plant and Account 367 mains in 2050 as proposed,
14 these depreciable plant items would have only been in
15 service for an average of 45 years, which would be
16 16 years plus 29.

17 And so the question is, does that mean that
18 Cardinal is accelerating depreciation on these plant
19 items 30 years earlier than otherwise would be
20 expected?

21 A. (Sonja R. Johnson) I'm so sorry, I got lost
22 in the numbers that you mentioned.

23 Q. Right. So I think the question is, is
24 Cardinal accelerating -- based upon their depreciation

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1 schedules, are they substantially accelerating the
2 depreciation of the plant items? And the analysis that
3 we had that it would be 30 years earlier, so have
4 you -- is that an issue that you -- that you looked at
5 when you were analyzing?

6 A. Based on our analysis, they are not
7 accelerating depreciation in any way for this Account
8 367. The majority of Account 367 was placed into
9 service back in 1994.

10 Q. Okay.

11 A. And if you were to add 50 years to that,
12 that's 2044. So if you were saying that the end of
13 life was in 2050, that is in no way in, you know,
14 ending of life --

15 Q. Yes. You do not believe it was a substantial
16 acceleration?

17 A. No, not at all.

18 COMMISSIONER KEMERAIT: So that -- that
19 concludes the questions that I have. So I'll look
20 to Chair Mitchell and Commissioner Brown-Bland to
21 see if you have any questions related to this
22 issue.

23 FURTHER EXAMINATION BY CHAIR MITCHELL:

24 Q. Mr. Hinton, just for you, talk a little bit

1 more about the reasonableness of using 2050 as an end
2 date here for these assets. I mean, you just testified
3 a minute ago that the carbon plan is under development
4 and there are strategies for achieving the carbon
5 reduction targets that are now set forth in the statute
6 that are evolving or will -- you know, will continue to
7 evolve as technologies change, et cetera. So just help
8 me understand why 2050 is a reasonable date, in light
9 of the totality of the circumstances.

10 A. (John R. Hinton) To be honest with you,
11 Chair Mitchell, to say I'm an expert in depreciation
12 would not be correct.

13 Q. I understand that. And we'll give your
14 testimony the weight it's due, Mr. Hinton. We know you
15 and we know you well. Just help -- give me some --
16 help me. Answer that question.

17 A. I see it that 2050 is a reasonable goal, but
18 there are so many unknowns to get there that the idea
19 that, if -- in the backdrop of your question is, well,
20 will the gas pipeline no longer be needed because
21 natural gas will be, you know, really limited. We
22 still have a need for reliable power in the state, even
23 with the carbon plan, so there has to be a balancing.
24 And battery costs and solar renewables I don't believe

1 are gonna handle the need for reliable power even in
2 2050. So I suspect there will be some need for gas,
3 whether supplied by CTs and limited combined cycle
4 units, I don't -- you know, I haven't looked at that
5 detailed expansion plan in that bracket of 2040, 2050,
6 but I suspect there will still be a need for that. How
7 we accomplish the goals of the government plan, I'm not
8 sure. So I can't really say that -- I just -- I just
9 don't have a general confidence -- high-level
10 confidence that in 2050 we'll no longer need natural
11 gas service in North Carolina.

12 Q. Well, the Public Staff agreed to use 2050 as
13 a reasonable end of life for these assets, so help me
14 understand why.

15 A. I guess the reasons that Ms. Johnson said are
16 appropriate, in that this pipeline was started in '94,
17 and it's got X amount of life left in it, and then
18 there was zone 2 that was done years later, but still,
19 the fact is that a reasonable -- it sounded to me,
20 based on my understanding of her testimony, that 2050
21 is a reasonable time period for the end of life for
22 those assets.

23 Q. Okay. And you have nothing to add beyond
24 what we've heard from Ms. Johnson?

1 A. No, I don't. The only thing -- the only dust
2 of sprinkle dust I had was to suggest the IRPs, the
3 carbon plan at this point in time is -- it's a great
4 plan and we're working to make it a better plan as we
5 go through the investigation, and I'm pleased the
6 Commission is digging into these plans at the level it
7 has, but I just still look at them as a little bit of
8 it's a plan.

9 Q. Okay.

10 A. And it's supporting new planning, but the
11 plan, itself, is likely to change. I mean, I can go
12 back and recite history of the Cliffside case.

13 Q. Please don't.

14 A. And we don't need to go through that.

15 Q. We're still living through it. Okay. All
16 right. I have nothing further, Mr. Hinton. Thank you.

17 COMMISSIONER KEMERAIT: Thank you. So
18 we'll move on to questions on Commission questions
19 beginning with the Public Staff.

20 MS. HOLT: I have no questions.

21 MS. COXTON: No questions.

22 MS. ATHENS: No questions from Piedmont.

23 MS. GRIGG: Nor from PS&C.

24 COMMISSIONER KEMERAIT: And how about

1 the applicant?

2 MR. KAYLOR: Just a few.

3 EXAMINATION BY MR. KAYLOR:

4 Q. With regard to the questions on the
5 depreciation rates, you indicate that you are looking
6 at, in this study, end of life in 2050, but we're
7 setting rates right now for the next five years; is
8 that correct?

9 A. (Sonja R. Johnson) Correct.

10 Q. So that if there is a change that we think
11 needs to happen, there would be another study before
12 the next rates go into play; would that not be true?

13 A. You are correct.

14 Q. So if there is any indication that the end of
15 life were different, that could be corrected well
16 before we arrive at the end of life?

17 A. You are correct.

18 Q. Thank you. Mr. Hinton, a few questions to
19 you about your recommended rate of return and what the
20 Public Staff settled with.

21 Now, you, as the witness for the Public Staff
22 on capital structure and rate of return, you filed
23 testimony, and you recognize that the Company will file
24 testimony and largely disagree with whatever values

1 you've arrived at; is that correct?

2 A. (John R. Hinton) Correct.

3 Q. And so as we get into negotiations and you
4 read the testimony of the Company's witness David Haag,
5 you recognize that he disagrees with you with regard to
6 the risk that Cardinal has compared to the LDCs?

7 A. Yes. And he also disagreed on the cost of
8 debt, and we met on that rate.

9 Q. Correct.

10 A. And part of the stipulation, we came to an
11 agreement on that.

12 Q. And it's your conclusion that Cardinal is
13 less risky than an LDC, correct?

14 A. I have -- I have -- that's my belief, yeah.
15 It's -- Cardinal -- it's -- it has -- the risk
16 associated with the transmission-related risk, it's, I
17 think, less risky. The question becomes then how to
18 quantify that lower risk, and that's when I was at a
19 loss.

20 Q. And you indicated you struggled at that
21 quantification; did you not?

22 A. Yes, I did.

23 Q. And so we -- I think we recognize, as
24 Chair Mitchell mentioned, that, in recent LDC cases,

1 the allowed rate of return has been higher than the
2 9.55 that you've recommended here; is that not true?

3 A. Yes, until the recent case being approved at
4 9.60 percent ROE.

5 Q. And we are in a little bit of a different
6 financial situation than we were last year, are we not,
7 with regard to rates?

8 A. Yes, we are. Interest rates have increased,
9 bond yields have increased, and inflation rates are
10 higher now. The hope is that things will settle back
11 down in the long run, but right now they are
12 significantly higher.

13 Q. And so your range that you recommended in
14 your testimony was -- for return on equity was 9.48 up
15 to -- I'm sorry, 9.2 up to 9.64; is that correct?

16 A. Yes. The range of my estimates, correct.

17 Q. And then you came in and you recommended a
18 level of 9.48?

19 A. Correct.

20 Q. And the Company and the Public Staff
21 negotiated a settlement which involved more than just
22 ROE, more than depreciation, other things that were
23 involved in that total settlement; is that correct?

24 A. Correct. At one time, I think in my cross

1 examination, I said a global settlement.

2 Q. A global settlement. And so by arriving at
3 9.55, you feel like that's an appropriate rate for the
4 Public Staff to agree with the companies and it's fair
5 to the two carriers, Piedmont and to the Public
6 Service; is that correct?

7 A. And the public at large, correct.

8 Q. And the public at large.

9 A. And the reason I say that is because,
10 obviously, the cost Public and Piedmont bear to ship
11 gas on the Cardinal system will ultimately be recovered
12 from customers.

13 Q. Correct. Thank you. That's all I have.

14 COMMISSIONER KEMERAIT: Thank you. So
15 that's all the questions from the Commission.
16 Thank you very much to the panel. Before we
17 conclude the hearing, are there any other matters
18 that we need to discuss from the applicant, the
19 Public Staff, or the interveners?

20 MS. HOLT: Public Staff moves the
21 admission of our witnesses' exhibits.

22 COMMISSIONER KEMERAIT: The motion is
23 allowed.

24 (Patel Exhibits A and B Corrected,

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1 Johnson Exhibit 1, Johnson Settlement
2 Exhibit A, Hinton Direct Exhibits 1
3 through 10, and Hinton Settlement
4 Exhibit I were admitted into evidence.)

5 MS. GRIGG: Commissioner Kemerait, just
6 to close the loop, when the settlement agreement
7 was filed with the Commission, PS&C was not a
8 party, but as Mr. Kaylor referenced, PS&C
9 subsequently joined the settlement agreement and
10 stipulation, and we are going to file a letter
11 today just noting that so that loop is finally
12 closed, for the record.

13 COMMISSIONER KEMERAIT: Thank you. Any
14 other matters?

15 MR. KAYLOR: I think the only other
16 matter would be the proposed orders.

17 COMMISSIONER KEMERAIT: I was getting
18 ready to say, would 30 days after the transcript is
19 prepared be acceptable to parties?

20 MR. KAYLOR: Acceptable to Cardinal,
21 yes.

22 MS. HOLT: That's fine.

23 COMMISSIONER KEMERAIT: Thank you. With
24 that, we will conclude the evidentiary hearing and

1 close the record.

2 MR. KAYLOR: Thank you.

3 MS. HOLT: Thank you.

4

5 (Hearing concluded at 2:03 p.m.)

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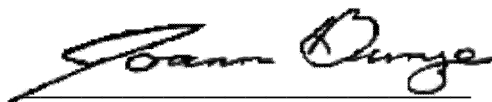
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CERTIFICATE OF REPORTER

STATE OF NORTH CAROLINA)
COUNTY OF WAKE)

I, Joann Bunze, RPR, the officer before whom the foregoing hearing was conducted, do hereby certify that any witnesses whose testimony may appear in the foregoing hearing were duly sworn; that the foregoing proceedings were taken by me to the best of my ability and thereafter reduced to typewritten format under my direction; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this hearing was taken, and further that I am not a relative or employee of any attorney or counsel employed by the parties thereto, nor financially or otherwise interested in the outcome of the action.

This the 12th day of July, 2022.



JOANN BUNZE, RPR

Notary Public #200707300112

