

**COMMONWEALTH OF VIRGINIA**  
**STATE CORPORATION COMMISSION**

SCC-CLERK'S OFFICE  
DOCUMENT CONTROL CENTER

2021 MAY 28 A 9:34

21056066

**PREFILED STAFF TESTIMONY**

**APPALACHIAN POWER COMPANY**

**For approval of a rate adjustment clause,  
BC-RAC, pursuant to §§ 56-585.1 A 6 and  
56-585.1:9 of the Code of Virginia**

**PUR-2020-00259**

**May 28, 2021**

**TABLE OF CONTENTS**

<b>Anna L. Clayton</b> <b>DIVISION OF UTILITY ACCOUNTING AND FINANCE</b>	<b>PART A</b>
<b>Turner L. LaBrie</b> <b>DIVISION OF UTILITY ACCOUNTING AND FINANCE</b>	<b>PART B</b>
<b>Timothy A. Morris</b> <b>DIVISION OF PUBLIC UTILITY REGULATION</b>	<b>PART C</b>

**PART A**

**Summary of Direct Testimony – Anna L. Clayton**

My testimony includes the following findings and conclusions:

1. A total Projected Cost Recovery Factor of \$4,834,562 for the rate year beginning December 1, 2021, and ending November 30, 2022, should be approved.
2. Staff's recommended revenue requirement is \$54,361 less than the Company's proposed revenue requirement.
3. Staff recommends that the Commission direct the Company to remove the capital investment and operations and maintenance expense associated with AMI and DACR as non-incremental costs from the Projected Cost Recovery Factor.
4. Staff recommends that the Commission direct the Company to recalculate the lifetime revenue requirement excluding the AMI and DACR costs as non-incremental costs in its next BC-RAC filing.

**PREFILED TESTIMONY  
OF  
ANNA L. CLAYTON**

**APPALACHIAN POWER COMPANY  
CASE NO. PUR-2020-00259**

**MAY 28, 2021**

1 **Q. PLEASE STATE YOUR NAME AND THE POSITION YOU HOLD WITH THE**  
2 **STATE CORPORATION COMMISSION ("COMMISSION").**

3 **A.** My name is Anna L. Clayton. I am a Principal Utility Specialist with the Commission's  
4 Division of Utility Accounting and Finance.

5 **Q. PLEASE PROVIDE A SUMMARY OF THE CURRENT PETITION.**

6 **A.** On January 28, 2021, Appalachian Power Company ("APCo" or the "Company") filed a  
7 petition ("Petition") with the Commission pursuant to §§ 56-585.1 A 6 and 56-585.1:9 of  
8 the Code of Virginia ("Code") for approval of a rate adjustment clause, designated as the  
9 BC-RAC, to recover the incremental costs of providing broadband capacity under the  
10 Company's broadband capacity pilot project in Grayson County, Virginia ("Grayson  
11 Broadband Project" or "Project").

12 In this proceeding, APCo has requested approval of its proposed BC-RAC to  
13 recover the incremental costs of providing broadband capacity to a nongovernmental  
14 internet service provider ("ISP") in areas of Grayson County that are unserved by  
15 broadband. APCo is requesting that the Commission approve a rate adjustment clause

1 ("RAC") for the capital investments, for the rate year beginning December 1, 2021, and  
 2 ending November 30, 2022 ("Rate Year"). The Company is requesting a Projected Cost  
 3 Recovery Factor ("Projected Factor") revenue requirement of \$4,888,923 and True-Up  
 4 Factor revenue requirement of \$0.<sup>1</sup>

5 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

6 **A.** My testimony in this proceeding addresses:

- 7 • Staff's review of the rate year revenue requirement and projected costs for the
- 8 BC-RAC;
- 9 • The incremental broadband costs; and
- 10 • Staff's review of the lifetime revenue requirements for the BC-RAC.

11 **Q. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING YOUR RATE**  
 12 **YEAR ANALYSIS.**

13 **A.** My conclusions are as follows:

- 14 • The Company's Rate Year costs are within the \$60 million cap established by
- 15 the Code;
- 16 • Staff excludes a modest level of costs that are non-incremental, thus not eligible
- 17 for recovery in a RAC pursuant to Code § 56-585.1:9, that would otherwise
- 18 have been incurred for the Company's AMI and DACR;
- 19 • The Company properly reflects projected third-party lease proceeds as an offset
- 20 to the BC-RAC revenue requirement; and

---

<sup>1</sup> Petition at 1 & 5; See Appendix A to this testimony for an explanation of these factors. This is the Company's first request for cost recovery through the BC-RAC, thus there is no over-or under-recovery balance at this point to reconcile.

- Staff's recommended revenue requirement is \$4,834,562, which is \$54,361 less than that proposed by the Company.

### Project Costs

**Q. WHAT ARE THE ESTIMATED CAPITAL COSTS OF THE GRAYSON BROADBAND PILOT?**

**A.** The Company estimates capital investment for the Project to be approximately \$27.5 million. This cost estimate includes construction of approximately 238 miles of 96-strand fiber optic cable and all necessary hardware, right-of-way work, permitting, easements, pole replacements (necessitated by fiber loading), telecommunications building to hub the ISP electronics, engineering, and installation.<sup>2,3</sup>

### Revenue Requirement

**Q. PLEASE EXPLAIN THE COSTS THAT THE COMPANY IS SEEKING TO RECOVER IN THE BC-RAC.**

**A.** In this proceeding, the Company has requested to recover the incremental costs of providing broadband capacity, as approved by the Commission in Case No. PUR-2019-00145. As shown in Table 1, the Company is requesting recovery of \$4,888,923 of which

---

<sup>2</sup> Pre-filed testimony of Company witness Perdew at 3.

<sup>3</sup> This capital cost estimate is more than the pilot scenario approved in Case No. PUR-2019-00145 ("Approval Petition") of \$16.7 million. See Appendix B to this testimony for the Company's response to Staff Interrogatory 03-006 for the explanation of the differences. The primary change to these estimates is the inclusion of contingencies and overheads in the \$27.5 million updated estimate.

\$1,880,964 are financing costs and \$3,007,959 are projected operating and maintenance ("O&M") expenses. This revenue requirement is net of the estimated revenues under its lease agreement with the ISP, GigaBeam.

**Table 1**

**Company Revenue Requirement**

	<u>Amount</u>
Financing Cost	\$1,880,964
Depreciation Expense	\$1,055,361
Property Tax Expense	\$114,736
Maintenance and Repair Expense	\$595,555
Deferred Cost Amortization <sup>4</sup>	\$1,376,047
ISP Revenue	<u>(\$133,740)</u>
<b>Total Revenue Requirement</b>	<b>\$4,888,923</b>

**Q. WHAT QUALIFICATIONS ARE PLACED ON COST CONSIDERATION IN A BROADBAND PILOT?**

**A.** Code § 56-585.1:9 B limits the annual costs to \$60 million.<sup>5</sup> This Project does not exceed that annual cost cap. In addition, that Code section limits the costs subject to recovery from a rate adjustment clause as follows: "The incremental costs of providing broadband capacity pursuant to any such pilot program, net of revenue generated therefrom, shall be

<sup>4</sup> As discussed on page 4 of Company witness Sebastian's direct testimony, the Company is deferring depreciation expense, O&M costs and financing costs on rate base calculated up to the beginning of the Rate Year and is proposing to recover them over the Rate Year in this Petition.

<sup>5</sup> The Commission ruled, in the Final Order of Case No. PUR-2019-00145, that the "costs" in that provision relate to the actual annual costs including capitalized, expensed, and deferred costs and not the annual revenue requirement. *See Petition of Appalachian Power Company, For approval of a broadband capacity pilot program pursuant to § 56-585.1:9 of the Code of Virginia*, Case No. PUR-2019-00145, Doc. Con. Cen. No. 200310148, Final Order (March 5, 2020).



1 eligible for recovery from customers as an electric grid transformation project pursuant to  
 2 clause (vi) of subdivision A 6 of [Code] § 56-585.1 filed on or after July 1, 2020."

3 **Q. WHAT ARE THE COMPANY'S INCREMENTAL COST ASSUMPTIONS IN**  
 4 **THIS PROCEEDING?**

5 **A.** The Company represents that the non-incremental costs in this proceeding are \$0.<sup>6</sup> This is  
 6 consistent with what the Company presented in Case No. PUR-2019-00145.<sup>7</sup> The  
 7 Company represents the following:

8 [a]bsent the Project, the Company would not deploy fiber optic  
 9 cable in Grayson County. Rather, but for the Pilot Statute, APCo  
 10 would have used a wireless-based platform to meet its  
 11 communications needs in Grayson County, and would not have  
 12 installed any fiber optic cable. Indeed, a wireless-based platform  
 13 would not be capable of supporting reliable Internet service to the  
 14 designated areas of Grayson County, in terms of both speed and  
 15 availability. As a result, all of the costs of deploying fiber optic  
 16 infrastructure under the Project are incremental.<sup>8</sup>

17 **Q. DOES STAFF HAVE CONCERNS WITH THE COMPANY'S PROPOSED**  
 18 **INCREMENTAL COSTS?**

19 **A.** Yes. In the Approval Petition, Staff witness Harris addressed concerns Staff had regarding  
 20 the Company's predominant use of the facilities as the Company's communication network

---

<sup>6</sup>Pre-filed testimony of Company witness Perdew at 5.

<sup>7</sup> See *Petition of Appalachian Power Company, For approval of a broadband capacity pilot program pursuant to § 56-585.1:9 of the Code of Virginia*, Case No. PUR-2019-00145, Doc. Con. Cen. No. 190920085, Pre-filed Testimony of Company witness Sebastian at 9 (Sept. 6, 2019).

<sup>8</sup> *Id.*

1 for advanced metering infrastructure ("AMI") and distribution automation and circuit  
 2 reconfiguration ("DACR") purposes.<sup>9</sup> As discussed above, the statute allows for recovery,  
 3 in a rate adjustment clause, of the incremental costs of providing broadband capacity. In  
 4 the Approval Petition, Staff witness Cizenski stated, "From a technical perspective, Staff  
 5 believes that other programs such as AMI and DACR are not essential to providing  
 6 broadband capacity... [a]ccordingly, Staff believes that costs related to these programs are  
 7 therefore not incremental costs under the statute."<sup>10</sup> The Company also stated in response  
 8 to Staff Interrogatory No. 04-085 in that case:

9 While the "Additional Electronics for APCo fiber  
 10 operations" are not essential to the primary goal of providing  
 11 middle-mile broadband capacity that will enable GigaBeam  
 12 to provide Internet service at speeds greater than 10/1 MBps  
 13 in unserved areas of Grayson County, it is essential to the  
 14 secondary goal of using fiber optic cable as the  
 15 communications platform for the Company's AMI meters  
 16 and DACR equipment, which will help improve electric  
 17 reliability in the County.<sup>11</sup>

18 **Q. WHAT COSTS DOES STAFF BELIEVE TO BE INCREMENTAL?**

19 **A.** As discussed above, in the Approval Petition, Staff took the position that the costs  
 20 associated with AMI and DACR are not essential to providing broadband capacity, thus,  
 21 those costs are not incremental and not eligible for recovery in the BC-RAC. Staff's

---

<sup>9</sup> See *Petition of Appalachian Power Company, For approval of a broadband capacity pilot program pursuant to § 56-585.1:9 of the Code of Virginia*, Case No. PUR-2019-00145, Doc. Con. Cen. No. 191230008, Pre-filed Testimony of Staff witness Harris at 7-8 and Appendix A (Dec. 18, 2019).

<sup>10</sup> See *Petition of Appalachian Power Company, For approval of a broadband capacity pilot program pursuant to § 56-585.1:9 of the Code of Virginia*, Case No. PUR-2019-00145, Doc. Con. Cen. No. 191230008, Pre-filed Testimony of Staff witness Cizenski at 10 (Dec. 18, 2019).

<sup>11</sup> See Appendix B.

position has not changed and, for this reason, the AMI and DACR costs are removed from the capital investment and O&M expenses in the calculation of the Rate Year revenue requirement. The Company stated that it would cost approximately \$507,000 to install the wireless infrastructure to support AMI and DACR if the fiber optic network proposed under the Pilot was not available, plus estimated annual cellular costs of approximately \$26,400 and annual operations and maintenance costs of \$11,150.<sup>12</sup> Staff reduces the revenue requirement by approximately \$73,000 in order to reflect only the incremental cost of broadband service in the BC-RAC.<sup>13</sup>

**Q. WHAT ARE THE COMPANY'S RECOVERY OPTIONS FOR NON-INCREMENTAL PILOT PROJECT COSTS?**

**A.** Non-incremental pilot net costs, if they otherwise qualify as a grid transformation project, are also RAC-eligible pursuant to Code § 56-585.1 A 6. Non-incremental pilot net costs that are not included in an eligible grid transformation RAC would be treated as base rate items. This is summarized in the table below.

	Incremental Costs	Non-Incremental Costs, but GTSA- Qualifying	Non-Incremental, Non-GTSA
Recovery Mechanism	RAC	RAC	Base Rates

<sup>12</sup> The Company's responses to Staff Interrogatories 09-029 and 09-030. See Appendix B of this testimony.

<sup>13</sup> Staff finds that the other costs proposed for recovery in this Petition are either incremental to the project of providing broadband service to Grayson County customers or have already been appropriately excluded as non-incremental costs.

1 **Q. HAS STAFF REVIEWED THE COSTS UNDERLYING THE PROJECTED**  
2 **FACTOR?**

3 **A.** Yes, Staff reviewed the Company's projections and will continue to review the costs of the  
4 BC-RAC as they are incurred. While Staff does not take issue with the Company's  
5 projections at this time, Staff notes that any difference between these projections and the  
6 actual costs incurred will be handled through a future BC-RAC True-Up Factor.<sup>14</sup>

7 **Q. PLEASE REVIEW THE CAPITAL STRUCTURE AND COST OF CAPITAL USED**  
8 **TO CALCULATE THE REVENUE REQUIREMENT.**

9 **A.** As discussed in the testimony of Staff witness LaBrie, Staff is recommending a capital  
10 structure and overall weighted cost of capital for the Rate Year that differs from what the  
11 Company proposed.<sup>15</sup> Staff's recommended overall weighted cost of capital is 7.183% for  
12 the period through November 23, 2020, and 7.074% for the period after November 23,  
13 2020. Incorporating this into Staff's calculation of the Projected Recovery Factor does not  
14 materially change the revenue requirement.

15 **Q. HAS THE COMPANY REFLECTED LEASE PROCEEDS AS A REDUCTION IN**  
16 **ITS PROPOSED REVENUE REQUIREMENT?**

17 **A.** Yes. Company witness Yoder states on page 6 of his direct testimony that "[r]ental  
18 revenues received from third party use of the fiber cable will be used to offset the costs

---

<sup>14</sup> Of the \$27,500,000 of estimated capital investment, the Company has only incurred approximately \$744,021 of actual amounts as of the date of this filing.

<sup>15</sup> Staff's recommended capital structure can be found in Schedule 1 of Staff witness LaBrie's testimony.

1 incurred." The estimated revenues arising from these lease agreements have been treated  
2 as a reduction to the annual revenue requirements included in both the Projected Factor  
3 and lifetime revenue requirements.

4 **Q. WHAT IS STAFF'S PROPOSED PROJECTED FACTOR REVENUE**  
5 **REQUIREMENT?**

6 **A.** Staff's total revenue requirement does not differ materially from the Company's as  
7 presented in Table 1. Staff calculated revenue requirement is \$4,834,562.<sup>16</sup> This is  
8 \$54,361 less than the Company's proposed revenue requirement.<sup>17</sup> See Table 2 for a  
9 breakdown of this amount.

---

<sup>16</sup> In addition to removing the costs associated with AMI and DACR, Staff's revenue requirement also incorporates the overall cost of capital as proposed by Staff witness LaBrie. While Staff's overall cost of capital does differ from the Company's slightly, this difference does not materially impact the revenue requirement. In addition, Staff's calculation includes capital investment dollars that are immaterially different from what was presented in the Company's application, a property tax rate that is not rounded and a correction to the calculation of maintenance and repairs expense.

<sup>17</sup> Using this revenue requirement, the monthly residential billing rate would not change from \$0.00054/kwh. Staff witness Morris discusses the impacts on customers' bills in more detail.

Table 2

## Staff Revenue Requirement

	<u>Amount</u>
Financing Cost	\$1,881,455
Depreciation Expense	\$1,055,364
Property Tax Expense	\$122,625
Maintenance and Repair Expense	\$604,251
Deferred Cost Amortization	\$1,377,852
Baseline O&M (AMI & DACR)	(\$35,421)
Baseline Financing Cost (AMI & DACR)	(\$37,824)
ISP Revenue	<u>(\$133,740)</u>
Total Revenue Requirement	\$4,834,562

Lifetime Revenue Requirements

1 Q. DID THE COMPANY CALCULATE THE ESTIMATED LIFETIME REVENUE  
2 REQUIREMENT OF THE E-RAC?

3 A. Yes, it did. As shown in Table 3 below, the Company estimates the nominal lifetime  
4 revenue requirement of the BC-RAC to be \$62,141,649.<sup>18</sup>

Table 3

## Lifetime Revenue Requirement

Financing Cost	\$19,761,471
Depreciation Expense	\$25,985,073
O&M Expense	<u>\$16,395,105</u>
Total Revenue Requirement	\$62,141,649

<sup>18</sup> This amount is based on the Company's representation that all costs included in the BC-RAC are incremental. Staff did not have the level of detail to recalculate the lifetime revenue requirement excluding AMI and DACR costs.

1 **Q. HAS STAFF REVIEWED THE CALCULATIONS UNDERLYING THE**  
2 **LIFETIME REVENUE REQUIREMENT?**

3 **A.** Yes. While Staff does not take issue with the methodology the Company used to calculate  
4 the lifetime revenue requirement of the BC-RAC, Staff does have a couple of differences  
5 from the Company in its calculation. First, Staff applies the correct tax gross-up factor.  
6 The Company inadvertently excluded the Virginia minimum tax from its gross-up factor.  
7 Including Virginia minimum tax is appropriate and consistent with the gross-up factor used  
8 by the Company to calculate the rate year revenue requirement. Second, Staff uses its  
9 proposed cost of capital of 7.074%, as discussed in more detail by Staff witness LaBrie. In  
10 addition, Staff incorporates certain ratemaking inputs unintentionally omitted by the  
11 Company in its calculation<sup>19</sup> and uses the un-rounded property tax rate. These adjustments  
12 to the calculation result in a lifetime revenue requirement of \$61,392,249. This is \$749,400  
13 less than the Company's total nominal lifetime revenue requirement.

14 **Q. DOES STAFF HAVE ANY ADDITIONAL COMMENTS REGARDING THE BC-**  
15 **RAC LIFETIME REVENUE REQUIREMENT?**

16 **A.** Yes. Staff recommends, consistent with the position that AMI and DACR costs are non-  
17 incremental, that the Commission direct the Company to recalculate the lifetime revenue  
18 requirement to reduce it by the amount of non-incremental costs and include the updated  
19 lifetime revenue requirement calculation in its next BC-RAC filing.

---

<sup>19</sup> The Company inadvertently excluded the pre-rate year accumulated depreciation from the calculation of the total accumulated depreciation. In addition, the Company excluded the pre-tax weighted cost of debt from the calculation for some of the years.

**Environmental Justice**

1    **Q.    HOW DOES THE COMPANY'S PETITION, AND THE PROJECTS, RATES, AND**  
 2           **OTHER PROPOSALS CONTAINED THEREIN, ADDRESS ENVIRONMENTAL**  
 3           **JUSTICE (AS DEFINED IN CODE § 2.2-234)?**

4    **A.    In response to a Staff interrogatory, the Company states:**

5                    The Company's proposed broadband rate adjustment clause  
 6                    would not, if approved, result in negative environmental  
 7                    consequences or perceptible changes to viewshed.<sup>20</sup>

8    **Q.    HOW DOES THE COMPANY'S SITING, PLANNING, AND CAPITAL PROJECT**  
 9           **AUTHORIZATION   PROCESSES   CONSIDER   THE   IMPACTS   OF   ITS**  
 10           **PROJECTS ON ENVIRONMENTAL JUSTICE?**

11   **A.    In response to a Staff interrogatory, the Company states:**

12                   The Company recognizes the importance of this issue and  
 13                   has convened a working group to review its processes and  
 14                   practices for project siting and outreach as it relates to  
 15                   potential environmental justice impacts. The working group  
 16                   is developing guidance to ensure projects do not  
 17                   disproportionately negatively affect low income and/or  
 18                   underrepresented communities.<sup>21</sup>

19   **Q.    HOW DO THE COMPANY'S CAPITAL AUTHORIZATION PROCESSES**  
 20           **CONSIDER THE IMPACTS OF ITS PROJECTS ON ENVIRONMENTAL**  
 21           **JUSTICE?**

---

<sup>20</sup> The Company's response to Staff Interrogatory 05-015. See Appendix B of this testimony.

<sup>21</sup> The Company's response to Staff Interrogatory 05-017. See Appendix B of this testimony.



1 A. In response to a Staff interrogatory, the Company states, "[t]he Company's capital  
 2 authorization processes do not explicitly address environmental justice."<sup>22</sup> Further, the  
 3 Company states that it does not maintain a database or other repository of information  
 4 identifying low-income communities, fence-line communities, and communities of color  
 5 in its service territory.<sup>23</sup>

6 **Q. DOES THE COMPANY HAVE AN ENVIRONMENTAL JUSTICE POLICY?**

7 A. No. As the Company stated in Case No. PUR-2020-00258, it does not currently have an  
 8 environmental justice policy.<sup>24</sup> In Case No. PUR-2020-00251, the Company explained  
 9 that it had not established a timeline for the development of an environmental justice  
 10 policy.<sup>25</sup>

---

<sup>22</sup> The Company's response to Staff Interrogatory 05-016. See Appendix B of this testimony.

<sup>23</sup> The Company's response to Staff Interrogatory 05-018. See Appendix B of this testimony.

<sup>24</sup> See Appendix B to this testimony for the Company's response to Staff Interrogatory 02-012. See also *Petition of Appalachian Power Company, For approval to continue a rate adjustment clause, the E-RAC, for costs to comply with state and federal environmental regulations pursuant to § 56-585.1 A 5 e of the Code of Virginia*, Case No. PUR-2020-00258, Doc. Con. Cen. No. 210510104, Pre-filed Testimony of Staff witness Clayton (May 7, 2021).

<sup>25</sup> See Appendix B to this testimony for the Company's response to Staff Interrogatories 03-017. See *Petition of Appalachian Power Company, For approval to continue a rate adjustment clause, the EE-RAC, and for approval of new energy efficiency programs pursuant to §§ 56-585.1 A 5 c and 56-596.2 of the Code of Virginia*, Case No. PUR-2020-00251, Doc. Con. Cen. No. 210340041, Pre-filed Testimony of Staff witness Mangalam (March 31, 2021).

Conclusion

1   **Q.   PLEASE SUMMARIZE THE FINDINGS AND CONCLUSIONS INCLUDED IN**  
2       **YOUR TESTIMONY.**

3   **A.   My testimony includes the following findings and conclusions:**

- 4           1) A total Projected Cost Recovery Factor of \$4,834,562 for the rate year beginning  
5           December 1, 2021, and ending November 30, 2022, should be approved.  
6  
7           2) Staff recommends that the Commission direct the Company to remove the capital  
8           investment and operations and maintenance expense associated with AMI and  
9           DACR as non-incremental costs from the Projected Cost Recovery Factor.  
10  
11          3) Staff recommends that the Commission direct the Company to recalculate the  
12          lifetime revenue requirement excluding the AMI and DACR costs as non-  
13          incremental costs in its next BC-RAC filing.

14   **Q.   DOES THIS CONCLUDE YOUR TESTIMONY?**

15   **A.   Yes, it does.**

## Clayton Schedules

Clayton  
Schedule 1

Appalachian Power Company  
Case No. PUR-2020-00259  
Broadband RAC (BC-RAC)  
For the Year Beginning December 1, 2021  
(in the 000s)

Line No.	Grayson County Project	
1	Projected Revenue Factor	\$ 4,835
2	Actual Cost True-Up Factor	\$ -
3	Total	\$ 4,835

Clayton  
Schedule 2

Appalachian Power Company  
Case No. PUR-2020-00259  
Broadband RAC (BC-RAC)  
Revenue Requirement  
For the Year Beginning December 1, 2021  
(in the 000s)

Line No.		Grayson County Project
1	Rate Base	21,518
2	Weighted Average Cost of Capital	7.074%
3	NOI	1,522
4	Less Interest Expense on Debt Total Weighted Average Cost of Debt	2.445%
5	Rate Base	21,518
6	Revenue Requirement - Interest Expense on Debt	526
7	Net Income	996
8	Income Tax Gross-Up Factor	75.61%
9	Revenue Requirement - Net Income Including Income Taxes	1,318
10	Revenue Requirement - Financing Costs	1,844
11	Operating Expenses (Annualized)	
12	Operating Expenses	3,125
13	ISP Revenue	(134)
	Revenue Requirement - Operating Expenses	2,991
14	Revenue Requirement Per Projected Cost Recovery Factor	4,835

APPALACHIAN POWER COMPANY  
VIRGINIA JURISDICTIONAL ALLOCATION FACTORS  
FOR THE 12 MONTHS ENDED 12/31/2019

DESCRIPTION	Virginia	
	Non-Jurisdictional	Jurisdictional
Virginia Only Distribution Plant	0.056692	0.943308
		1.0

Clayton  
Schedule 4

Appalachian Power Company  
Case No. PUR-2020-00259  
Broadband RAC (BC-RAC)  
Gross Up Factor

Line No.		Tax Rates	Percentage of Incremental Gross Revenues
1	Operating Revenues		100.00%
2	Less: Factoring Expense		0.0000%
3	Income Before Income Taxes and VA Min Tax		100.00%
4	Less: VA Min Tax (VA Retail -- 1.45% x .483905)		0.7017%
5	Income Before Income Taxes		99.30%
6	Less: State Income Taxes (Line 3 x State Tax Rate)	3.5876%	3.5876%
7	Income Before Federal Income Taxes		95.71%
8	Less: Federal Income Taxes (Line 5 x Federal Tax Rate)	21.00%	20.0993%
9	Operating Income Percentage		75.6114%
10	Gross Revenue Conversion Factor (100%/Line 7)		1.3226

Appalachian Power Company  
Case No. FUD-2020-00259  
Broadband RAC (BAC-RAC)  
Rate Base  
For the Year Beginning December 1, 2021  
(in the COOs)

Line No.	Description	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
<b>Pre-Rate Base</b>																				
1	Capital Expenditures	\$ -	\$ -	\$ 4	\$ 51	\$ 83	\$ 127	\$ 402	\$ 744	\$ 1,944	\$ 2,944	\$ 4,144	\$ 5,344	\$ 6,744	\$ 8,244	\$ 9,844	\$ 11,644	\$ 13,444	\$ 15,044	\$ 16,844
2	Accumulated Depreciation																			
3	Accumulated Deferred Income Tax																			
4	Subtotal	\$ -	\$ -	\$ 4	\$ 51	\$ 83	\$ 127	\$ 402	\$ 744	\$ 1,944	\$ 2,944	\$ 4,144	\$ 5,344	\$ 6,744	\$ 8,244	\$ 9,844	\$ 11,644	\$ 13,444	\$ 15,044	\$ 16,844
5	Depreciation Factor	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%
6	Virginia Jurisdictional Rate Base	\$ -	\$ 4	\$ 4	\$ 48	\$ 78	\$ 120	\$ 379	\$ 707	\$ 1,834	\$ 2,777	\$ 3,909	\$ 5,041	\$ 6,162	\$ 7,277	\$ 8,218	\$ 9,844	\$ 11,688	\$ 13,715	\$ 16,016
<b>Rate Year</b>																				
7	Capital Expenditures	\$ 19,644	\$ 21,144	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644
8	Accumulated Depreciation	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)	\$ (507)
9	Accumulated Deferred Income Tax	\$ (225)	\$ (293)	\$ (360)	\$ (428)	\$ (495)	\$ (562)	\$ (629)	\$ (696)	\$ (763)	\$ (830)	\$ (897)	\$ (964)	\$ (1,031)	\$ (1,098)	\$ (1,165)	\$ (1,232)	\$ (1,299)	\$ (1,366)	\$ (1,433)
10	Subtotal	\$ 18,477	\$ 19,810	\$ 21,144	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644	\$ 21,644
11	Depreciation Factor	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%	\$ 94.33%
12	Virginia Jurisdictional Rate Base	\$ 17,438	\$ 18,647	\$ 19,845	\$ 21,153	\$ 22,454	\$ 23,755	\$ 25,056	\$ 26,357	\$ 27,658	\$ 28,959	\$ 30,260	\$ 31,561	\$ 32,862	\$ 34,163	\$ 35,464	\$ 36,765	\$ 38,066	\$ 39,367	\$ 40,668
13	13 Month Avg Rate Base Via Rate In-Service Rate Base	\$ 21,518																		
14																				
15		\$ 17,040	\$ 17,040	\$ 19,474	\$ 21,539	\$ 24,423	\$ 27,400	\$ 30,377	\$ 33,354	\$ 36,331	\$ 39,308	\$ 42,285	\$ 45,262	\$ 48,239	\$ 51,216	\$ 54,193	\$ 57,170	\$ 60,147	\$ 63,124	\$ 66,101



Appalachian Power Company  
Case No. PUR-2020-00259  
Broadband RAC (BC-RAC)  
Projected O&M  
For the Period December 2021 through November 2022  
(in the 000s)

Line No.	Cost	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Total	Allocation Factor	VA Juris Total
1	Maintenance & Repair	\$ 37	\$ 37	\$ 43	\$ 47	\$ 54	\$ 60	\$ 60	\$ 60	\$ 60	\$ 60	\$ 60	\$ 60	\$ 641		
2	Property Taxes	\$ 8	\$ 8	\$ 9	\$ 10	\$ 11	\$ 12	\$ 12	\$ 12	\$ 12	\$ 12	\$ 12	\$ 12	\$ 130		
3	Subtotal Rate Year O&M	\$ 45	\$ 45	\$ 51	\$ 57	\$ 64	\$ 72	\$ 73	\$ 73	\$ 73	\$ 73	\$ 73	\$ 73	\$ 771	94.33%	\$ 727
4	ISP Revenues	(27)	-	-	(31)	-	(42)	-	(42)	-	(42)	-	-	(142)	94.33%	(134)
5	Deferred Cost Amortization (VA Jurisdiction)	115	115	115	115	115	115	115	115	115	115	115	115	1,378		1,378
6	Depreciation Expense	68	68	68	77	86	97	109	109	109	109	109	109	1,119	94.33%	1,055
7	To Remove Baseline O&M															(35)
8	Total Rate Year O&M															\$ 2,991

Appalachian Power Company  
Case No. PUR-2020-00259  
Broadband RAC (BC-RAC)  
Actual and Projected Costs  
For the Period May 2020 through November 2021  
(in the 000s)

Line No.	Cost	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Total
1	Virginia Jurisdictional Rate Base						4	48	78	120	379	702	1,834	
2	Average Jurisdictional Rate Base					-		26	63	99	250	541	1,268	
3	Pre-Tax Weighted Cost of Capital	0.72%	0.72%	0.72%	0.72%	0.72%	0.72%	0.72%	0.72%	0.72%	0.72%	0.71%	0.71%	
4	Financing Costs on O&M Costs													
5	Financing Costs on Rate Base	-	-	-	-	-	0	0	0	1	2	4	9	
6	Total 2020 Deferred Financing Costs	-	-	-	-	-	0	0	0	1	2	4	9	16
7	Maintenance & Repair						6	8	8	14	19	33		
8	Property Taxes	-	-	-	-	-	1	2	2	3	4	7		
9	Depreciation Expense	-	-	-	-	-	10	35	64	103	162	255		
10	ISP Revenue	-	-	-	-	-	(6)	-	-	(12)	-	-		
11	Total	-	-	-	-	-	11	44	73	107	185	294		
12	Virginia Jurisdictional Allocation Factor	94.33%	94.33%	94.33%	94.33%	94.33%	94.33%	94.33%	94.33%	94.33%	94.33%	94.33%		
13	Virginia Jurisdictional Total	-	-	-	-	-	10	42	69	101	174	278		
14	Virginia Jurisdictional Rate Base	2,777	3,909	5,041	6,362	7,777	9,218	10,844	12,469	13,897	15,315	16,616		
15	Average Jurisdictional Rate Base	2,305	3,343	4,475	5,701	7,069	8,497	10,031	11,656	13,183	14,606	15,965		
16	Pre-Tax Weighted Cost of Capital	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%	0.71%		
17	Financing Costs on Rate Base	16	24	32	40	50	60	71	83	94	104	113		
18	Total 2021 Deferred Financing Costs	16	24	32	40	50	70	113	152	195	278	391		1,362
Total 2020 & 2021													1,378	

Appalachian Power Company  
Case No. PUR-2020-00259  
Broadband RAC (BC-RAC)  
Estimated Yearly Revenue Requirements by Class  
(In the 000s)

Line No.	Year	Total	Residential Service RS	Small General Service SGS	Medium General Service MGS	General Service GS	Large Power Service LPS	Sanctuary Worship Service SWS	Outdoor Lighting Service OL
1	2023	3,894	2,626	227	129	521	281	14	97
2	2024	3,745	2,525	218	124	501	270	13	93
3	2025	3,618	2,439	210	120	484	261	13	90
4	2026	3,499	2,360	204	116	468	253	12	87
5	2027	3,372	2,274	196	112	451	243	12	84
6	2028	3,265	2,202	190	108	437	236	12	81
7	2029	3,181	2,145	185	105	425	230	11	79
8	2030	3,108	2,096	181	103	416	224	11	77
9	2031	3,036	2,047	177	100	406	219	11	76
10	2032	2,953	1,991	172	98	395	213	11	74
11	2033	2,881	1,943	168	95	385	208	10	72
12	2034	2,810	1,895	163	93	376	203	10	70
13	2035	2,739	1,847	159	91	366	198	10	68
14	2036	2,668	1,799	155	88	357	193	10	67
15	2037	2,586	1,744	150	86	346	187	9	64
16	2038	2,516	1,697	146	83	336	182	9	63
17	2039	2,447	1,650	142	81	327	177	9	61
18	2040	2,378	1,603	138	79	318	172	8	59
19	2041	2,309	1,557	134	76	309	167	8	58
20	2042	2,228	1,502	130	74	298	161	8	56
21	2043	2,160	1,457	126	71	289	156	8	54
		61,392	41,398	3,571	2,032	8,208	4,434	219	1,530

## Clayton Appendix A

**Appalachian Power Company**  
**Case No. PUR-2020-00259**  
**BC-RAC**

**Appendix A**

**Description of the Revenue Requirement Factors**

---

**Introduction**

Both Appalachian Power Company's ("Company" or "APCo") and Staff's rate adjustment clause ("BC-RAC") revenue requirements consist of a Projected Cost Recovery Factor ("Projected Factor") and an Actual Cost True-Up Factor ("True-Up Factor").

**Projected Factor**

The Projected Factor is a forward-looking mechanism that allows the Company to earn a current return on its projected capital investment and rate year operating expenses including amortization expense related to any deferred BC-RAC.

The current return is calculated by multiplying the rate year 13-month average rate base by the overall weighted cost of capital grossed-up for income taxes. The cumulative rate base includes capital expenditures, accumulated depreciation and accumulated deferred income tax.

**True-Up Factor**

The True-Up Factor is a mechanism designed to credit to or recover from customers any over/under collection of costs from the most recently completed year. Actual revenues recovered during this period are compared to actual costs incurred during the same period and any difference is credited to or recovered from customers through the True-Up Factor revenue requirement.<sup>1</sup>

---

<sup>1</sup> The actual costs incurred can include all the costs mentioned in the Projected Factor section above. This proceeding is the first request for recovery of these costs. For that reason, there are no amounts to reconcile, thus no True-Up Factor is being requested in this proceeding.

## Clayton Appendix B

## Clayton Appendix B Table of Contents

### **PUR-2020-00259 Interrogatory Responses**

Company Response to Staff Interrogatory 03-006	1
Company Response to Staff Interrogatory 05-015	2
Company Response to Staff Interrogatory 05-016	3
Company Response to Staff Interrogatory 05-017	4
Company Response to Staff Interrogatory 05-018	5
Company Response to Staff Interrogatory 09-029	6
Company Response to Staff Interrogatory 09-030	7

### **PUR-2019-00145 Interrogatory Responses**

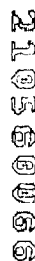
Company Response to Staff Interrogatory 04-085	8
--	---

### **PUR-2020-00258 Interrogatory Responses**

Company Response to Staff Interrogatory 02-012	9
--	---

### **PUR-2020-00251 Interrogatory Responses**

Company Response to Staff Interrogatory 03-017	10
--	----



**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
APPLICATION OF  
APPALACHIAN POWER COMPANY  
SCC CASE NO. PUR-2020-00259  
Interrogatories and Requests for the Production  
of Documents by the STAFF OF THE STATE CORPORATION COMMISSION  
Staff Set 3  
To Appalachian Power Company**

Interrogatory Staff 3-006:

Please refer to the Hearing Examiner's report in Case No. PUR-2019-00145, page 14 and Company witness Perdew's Schedule 46, Section 1, Statement i. Please provide a detailed narrative explaining why the capital investment for the approved pilot scenario (Scenario 1) was estimated to be \$16.7 million in Case No. PUR-2019-00145 and is estimated to be \$27.5 million in the current Application. In addition, please provide a detailed reconciliation between the two estimates along with any relevant supporting documentation.

Response Staff 3-006:

Please see Staff 3-006 Attachment 1 for a reconciliation between the direct cost estimate provided in Case No. PUR-2019-00145 and the fully loaded cost estimate provided in this case. The original estimate was without contingency and overheads and was based on conceptual estimates such as \$50,000 per mile, electronics at 15% of the total project and pole replacement costs of \$10,000 per mile. The original estimate was also based on a minimum broadband definition of 10/1. The updated estimate, which is based on the recent statutory minimum broadband definition of 25/3, is derived from a more detailed engineering estimate and scope of work and includes contingency and all overheads.

Although each line item varied between the original conceptual estimate and the updated detail estimate, there are three primary contributors to the increase from \$16.7M to \$27.5M:

- 1) Additional customer terminals required to meet the change in the Unserved definition from 10/1 to 25/3.
- 2) A revised per-mile pole replacement cost of \$10,000 to \$15,000.
- 3) Inclusion of contingency and overheads

---

The foregoing response is made by Kenneth L. Perdew, Dir Broadband Communications, on behalf of Appalachian Power Company.



**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
APPLICATION OF  
APPALACHIAN POWER COMPANY  
SCC CASE NO. PUR-2020-00259  
Interrogatories and Requests for the Production  
of Documents by the STAFF OF THE STATE CORPORATION COMMISSION  
Staff Set 5  
To Appalachian Power Company**

Interrogatory Staff 5-015:

How does the Company's application, and the projects, rates, and other proposals contained therein, address environmental justice (as defined in the Code of Virginia § 2.2-234)?

Response Staff 5-015:

The Company's proposed broadband rate adjustment clause would not, if approved, result in negative environmental consequences or perceptible changes to viewshed.

---

The foregoing response is made by Jennifer B. Sebastian, Regulatory Analysis & Case Mgr, on behalf of Appalachian Power Company.

**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
APPLICATION OF  
APPALACHIAN POWER COMPANY  
SCC CASE NO. PUR-2020-00259  
Interrogatories and Requests for the Production  
of Documents by the STAFF OF THE STATE CORPORATION COMMISSION  
Staff Set 5  
To Appalachian Power Company**

Interrogatory Staff 5-016:

Explain how the Company's capital project authorization processes consider the impacts of its projects on environmental justice.

Response Staff 5-016:

The Company's capital project authorization processes do not explicitly address environmental justice.

---

The foregoing response is made by Jennifer B. Sebastian, Regulatory Analysis & Case Mgr, on behalf of Appalachian Power Company.

**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
APPLICATION OF  
APPALACHIAN POWER COMPANY  
SCC CASE NO. PUR-2020-00259  
Interrogatories and Requests for the Production  
of Documents by the STAFF OF THE STATE CORPORATION COMMISSION  
Staff Set 5  
To Appalachian Power Company**

Interrogatory Staff 5-017:

When siting and planning infrastructure work and projects, how does the Company consider the environmental justice ramifications of its decisions?

Response Staff 5-017:

The Company recognizes the importance of this issue and has convened a working group to review its processes and practices for project siting and outreach as it relates to potential environmental justice impacts. The working group is developing guidance to ensure projects do not disproportionately negatively affect low income and/or underrepresented communities.

---

The foregoing response is made by Jennifer B. Sebastian, Regulatory Analysis & Case Mgr, on behalf of Appalachian Power Company.

**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
APPLICATION OF  
APPALACHIAN POWER COMPANY  
SCC CASE NO. PUR-2020-00259  
Interrogatories and Requests for the Production  
of Documents by the STAFF OF THE STATE CORPORATION COMMISSION  
Staff Set 5  
To Appalachian Power Company**

Interrogatory Staff 5-018:

Does the Company maintain a database or other repository of information identifying low-income communities, fenceline communities, and/or communities of color (all as defined in the Code of Virginia § 2.2-234) in its service territory?

Response Staff 5-018:

No.

---

The foregoing response is made by Jennifer B. Sebastian, Regulatory Analysis & Case Mgr, on behalf of Appalachian Power Company.

**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
APPLICATION OF  
APPALACHIAN POWER COMPANY  
SCC CASE NO. PUR-2020-00259  
Interrogatories and Requests for the Production  
of Documents by the STAFF OF THE STATE CORPORATION COMMISSION  
Staff Set 9  
To Appalachian Power Company**

Interrogatory Staff 9-029:

Please refer to the Pre-filed testimony of Company witness Perdew in Case No. PUR-2019-00145, pages 13 and 14. Specifically the following language:

"[A]PCo estimates that installing a wireless-based platform that would support the eventual deployment of DACR schemes and AMI meters to all Grayson County customers would require an initial capital investment of \$416,000... In addition to that investment, the Company estimates annual ongoing cellular costs of \$26,400 and annual operation and maintenance (O&M) costs of \$10,400."

Response Staff 9-029:

Yes.

---

The foregoing response is made by Kenneth L. Perdew, Title: Dir Broadband Communications , on behalf of Appalachian Power Company.

**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
APPLICATION OF  
APPALACHIAN POWER COMPANY  
SCC CASE NO. PUR-2020-00259  
Interrogatories and Requests for the Production  
of Documents by the STAFF OF THE STATE CORPORATION COMMISSION  
Staff Set 9  
To Appalachian Power Company**

Interrogatory Staff 9-030:

Do the above figures remain the Company's most current estimates for the installation of a wireless-based platform to support Grayson County? If not, please provide updated estimates for the initial capital investment, ongoing cellular costs, and annual operation and maintenance costs.

Response Staff 9-030:

No, the figures are not current. The installation of a wireless-based platform that would support the eventual deployment of DACR schemes and AMI meters to all Grayson County would require an initial capital investment of approximately \$507,000. The on-going O&M would be approximately \$11,150 per year. The annual cellular cost has not changed.

---

The foregoing response is made by Kenneth L. Perdew, Title: Dir Broadband Communications , on behalf of Appalachian Power Company.

**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
APPLICATION OF  
APPALACHIAN POWER COMPANY  
SCC CASE NO. PUR-2019-00145  
Interrogatories and Requests for the Production  
of Documents by the STAFF OF THE STATE CORPORATION COMMISSION  
Staff's Fourth Set  
To Appalachian Power Company**

**Interrogatory Staff 4-085:**

Please reference response to Staff Interrogatory 1-2 which states that the category "Additional Electronics for APCo fiber operations" consists of electronics used to communicate with the Company's AMI/DACR equipment. Please answer the following questions:

- a. Please describe how this equipment is essential toward the goal of providing broadband capacity to underserved areas of the Commonwealth.
- b. Can these electronics be installed at a later date without impacting the Pilot goal?
- c. Please describe equipment to be installed at DACR locations under the Pilot.

**Response Staff 4-085:**

- a. While the "Additional Electronics for APCo fiber operations" are not essential to the primary goal of providing middle-mile broadband capacity that will enable GigaBeam to provide Internet service at speeds greater than 10/1 Mbps in unserved areas of Grayson County, it is essential to the secondary goal of using fiber optic cable as the communications platform for the Company's AMI meters and DACR equipment, which will help improve electric reliability in the County.
- b. Yes, these electronics can be installed at a later date. However, AMI and DACR cannot be installed using fiber optic cable as the communications platform without these additional electronics, and installing them later will likely result in additional costs.
- c. While detailed engineering and design has not been completed, the equipment to be installed at DACR locations will likely include carrier Ethernet, fiber based switches, and PON (Passive Optical Network).

---

The foregoing response is made by Kenneth L. Perdew Jr., Director Broadband Communications, and Thomas J. Johnson, Director Distribution Engineering, on behalf of Appalachian Power Company.

**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
APPLICATION OF  
APPALACHIAN POWER COMPANY  
SCC CASE NO. PUR-2020-00258  
Interrogatories and Requests for the Production  
of Documents by the STAFF OF THE STATE CORPORATION COMMISSION  
Staff Set 2  
To Appalachian Power Company**

Interrogatory Staff 2-012:

Please provide a copy of the Company's Environmental Justice policy if such a policy has been adopted.

Response Staff 2-012:

A policy has not been adopted.

---

The foregoing response is made by Christian T. Beam, President & COO - Appalachian, on behalf of Appalachian Power Company.



**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
APPLICATION OF  
APPALACHIAN POWER COMPANY  
SCC CASE NO. PUR-2020-00251  
Interrogatories and Requests for the Production  
of Documents by the STAFF OF THE STATE CORPORATION COMMISSION  
Staff Set 3  
To Appalachian Power Company**

Interrogatory Staff 3-017:

When does APCo and/or AEP anticipate having corporate policies regarding environmental justice in place?

Response Staff 3-017:

The Company has not established a timeline for the development of an environmental justice policy.

---

The foregoing response is made by William K. Castle, Dir Regulatory Svcs, on behalf of Appalachian Power Company.

**PART B**



**PREFILED STAFF TESTIMONY  
OF  
TURNER L. LABRIE**

**APPALACHIAN POWER COMPANY  
CASE NO. PUR-2020-00259**

**May 28, 2021**

1 **Q. PLEASE STATE YOUR NAME AND THE POSITION YOU HOLD WITH THE**  
2 **STATE CORPORATION COMMISSION ("COMMISSION").**

3 **A.** My name is Turner L. LaBrie. I am a Utility Specialist with the Commission's Division of  
4 Utility Accounting and Finance.

5 **Q. PLEASE STATE THE PURPOSE OF YOUR TESTIMONY IN THIS CASE.**

6 **A.** My testimony addresses the appropriate December 31, 2019 Appalachian Power Company  
7 ("APCo" or "Company") capital structure and overall weighted cost of capital for the rate  
8 adjustment clause to recover the incremental costs of providing broadband capacity under  
9 the Company's broadband capacity pilot project in Grayson County, Virginia ("BC-RAC").

10 **Q. PLEASE DESCRIBE THE CAPITAL STRUCTURES AND OVERALL**  
11 **WEIGHTED COSTS OF CAPITAL REFLECTED IN THE COMPANY'S**  
12 **APPLICATION TO SUPPORT ITS REVENUE REQUIREMENTS UNDER THE**  
13 **BC-RAC.**

A. As shown in Schedule 8 of the Company's Application, the Company is proposing to use a three-part APCo December 31, 2019 end-of-period capital structure and overall weighted cost of capital.

- The first part is used to calculate the cost of capital in 2020 through October. It utilizes the 5.161% cost of long-term debt filed by the Company in Case No. PUR-2020-00015<sup>1</sup> ("Triennial Review") and the 9.420% return on equity approved by the Commission in Case No. PUR-2018-00048, resulting in an overall weighted cost of capital of 7.272%.
- The second part is used to calculate the cost of capital in 2020 for November. It utilizes a 4.978% cost of long-term debt based upon Staff's methodology approved in the Triennial Review. Additionally, it utilizes a 9.369% return on equity.<sup>2</sup> The resulting overall weighted overall cost of capital is 7.157%.
- The third part is used to calculate the cost of capital in 2020 for December. It utilizes a 4.978% cost of long-term debt and the 9.200% return on equity approved by the Commission in the Triennial Review.<sup>3</sup> The resulting overall weighted overall cost of capital is 7.073%.

**Q. DOES STAFF SUPPORT THE CAPITAL STRUCTURES AND OVERALL WEIGHTED COSTS OF CAPITAL PROPOSED BY THE COMPANY?**

A. No. Staff disagrees with the cost of long-term debt that the Company employs in its proposed capital structure. In calculating the cost of capital in 2020 through October, the Company proposes utilizing the 5.161% cost of long-term debt it proposed in the Triennial Review. The Company arrives at its cost of long-term debt by applying each debt series' effective interest rate to the corresponding face amount outstanding. This methodology

<sup>1</sup> *Application of Appalachian Power Company, For a 2020 triennial review of its base rates, terms and conditions pursuant to § 56-585.1 of the Code of Virginia*, Case No. PUR-2020-00015, Doc. Con. Cen. No. 201140127, Final Order (Nov. 24, 2020).

<sup>2</sup> This return on equity represents a pro-rated average of the 9.420% return on equity approved by the Commission in Case No. PUR-2018-00048 and the 9.200% return on equity approved by the Commission in the Triennial Review.

<sup>3</sup> The Company utilizes the 2.122% cost of short-term debt approved by the Commission in the Triennial Review in all three parts of the capital structure and overall weighted cost of capital.

1 conflicts with the methodology approved by the Commission in Case No.  
2 PUE-2014-00026 ("2014 Biennial Review"),<sup>4</sup> by which each debt series' effective interest  
3 rate is applied to the corresponding net amount outstanding. This same methodology was  
4 also adopted in APCo's Triennial Review.

5 Staff proposes a 4.978% cost of long-term debt through November 23, 2020, which  
6 is the day before the Commission issued its Final Order in the Triennial Review. For this  
7 period of time, Staff's position is that the methodology approved by the Commission in the  
8 2014 Biennial Review should be used. Incorporating Staff's cost of long-term debt, Staff  
9 proposes an overall weighted cost of capital of 7.183% through November 23, 2020.

10 **Q. IS THIS STAFF'S ONLY ISSUE WITH THE COMPANY'S PROPOSED COST OF**  
11 **LONG-TERM DEBT?**

12 **A.** No, it is not. In its Final Order in the Triennial Review, the Commission approved  
13 including the unamortized balance of the loss on reacquired debt not refunded in balance  
14 and cost of long-term debt calculations. The Company included the unamortized balance  
15 of the loss on reacquired debt not refunded in its proposed balance and cost of long-term  
16 debt for calculating its cost of capital in 2020 for November and December. However, in  
17 response to a Staff interrogatory, the Company provided an update to its unamortized  
18 balance of the loss on reacquired debt not refunded.<sup>5</sup> Staff proposes including the updated

---

<sup>4</sup> *Application of Appalachian Power Company, For a 2014 biennial review of the rates, terms and conditions for the provision of generation, distribution and transmission services pursuant to § 56-585.1 A of the Code of Virginia*, Case No. PUE-2014-00026, 2014 S.C.C. Ann. Rept. 392, Final Order (Nov. 26, 2014).

<sup>5</sup> See the Company's response to Staff Interrogatory No. 1-004, attached as Appendix A.

1 balance to calculate the cost of long-term debt after November 23, 2020, which decreases  
2 the net amount of long-term debt outstanding and increases the cost of long-term debt  
3 slightly from 4.978% to 4.981%.<sup>6</sup> Staff emphasizes that it is only proposing this balance  
4 and cost of long-term debt for dates in November including and subsequent to the  
5 Commission's Final Order in the Triennial Review. As a result of this update to the balance  
6 and cost of long-term debt, Staff proposes an overall weighted cost of capital of 7.074%  
7 after November 23, 2020.<sup>7</sup>

8 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

9 **A.** Yes, it does.

---

<sup>6</sup> A detailed breakdown of Staff's proposed balances and costs of long-term debt can be found attached as Schedule 2.

<sup>7</sup> A detailed breakdown of Staff's proposed capital structure and overall weighted cost of capital can be found in Schedule 1.

Exhibit No. \_\_\_\_\_  
 Witness: LaBrie  
 Schedule I

**Appalachian Power Company**  
**Capital Structure and Cost of Capital**  
**December 31, 2019**  
**Used to Calculate Cost of Capital through November 23, 2020**

<u>Component</u>	<u>Amount Outstanding</u>	<u>Weight</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>
Short-Term Debt	\$86,057,727	1.038%	2.122%	0.022%
Long-Term Debt	\$4,033,000,612	48.651%	4.978%	2.422%
Common Equity	\$4,170,633,836	50.311%	9.420% <sup>1</sup>	4.739%
Investment Tax Credits	<u>\$0</u>	<u>0.000%</u>	N/A	<u>0.000%</u>
Total Capitalization	\$ 8,289,692,175	100.000%		7.183%

**Appalachian Power Company**  
**Capital Structure and Cost of Capital**  
**December 31, 2019**  
**Used to Calculate Cost of Capital after November 23, 2020**

<u>Component</u>	<u>Amount Outstanding</u>	<u>Weight</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>
Short-Term Debt	\$86,057,727	1.038%	2.122%	0.022%
Long-Term Debt	\$4,031,177,250	48.639%	4.981%	2.423%
Common Equity	\$4,170,633,836	50.322%	9.200% <sup>2</sup>	4.630%
Investment Tax Credits	<u>\$0</u>	<u>0.000%</u>	N/A	<u>0.000%</u>
Total Capitalization	\$ 8,287,868,813	100.000%		7.074%

1. This is the return on equity authorized by the Commission in Case No. PUR-2018-00048.

2. This is the return on equity authorized by the Commission in the Triennial Review, Case No. PUR-2020-00015.



Appalachian Power Company  
Cost of Long-Term Debt Through November 30, 2020  
December 31, 2019

SERIES	ISSUE DATE	DUE DATE	PRINCIPAL AMOUNT ISSUED	PREMIUM DISCOUNT/AT	COMPANY NETBALANCE UNAMORTIZED DISCOUNTS	NETBALANCE UNAMORTIZED		NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	NETBALANCE UNAMORTIZED	
--------	------------	----------	-------------------------	---------------------	--	------------------------	--	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	------------------------	--

Apalachian Power Company  
Cost of Long-Term Debt after November 23, 2020  
December 31, 2019

SERIES	ISSUE DATE	DUE DATE	PRINCIPAL AMOUNT ISSUED	PREMIUM/ DISCOUNT AT ISSUANCE	COMPANY		NETBALANCE		NETBALANCE		NET ISSUANCE	PROCEEDS AT ISSUANCE	NET RATIO	EFFECTIVE COST RATE	FACE AMOUNT		ANNUALIZED COST
					ISSUANCE	EXPENSE	UNAMORTIZED DISCOUNTS	UNAMORTIZED EXPENSE	ON REACQUIRED DEBT	UNAMORTIZED LOSSES					CURRENTLY OUTSTANDING	12/31/2019	
Senior Notes																	
3.40%	5/16/2015	5/15/2025	300,000,000	(1,036,000)	2,312,700	1,220,872				294,822,287	68.87	3.54	300,000,000	298,180,208	10,536,701		
4.40%	5/15/2014	5/15/2024	300,000,000	(2,082,000)	2,673,178	2,410,006				294,844,822	68.31	4.50	300,000,000	296,001,194	13,332,889		
4.80%	5/19/2015	5/15/2025	350,000,000	(2,500,000)	67,872,463	2,641,367	78,765,749			249,397,237	71.31	6.674	350,000,000	268,215,090	17,702,287		
4.80%	3/25/2011	3/25/2021	350,000,000	(678,500)	68,387,800	317,550			1,382,862	357,387,432	102.18	4.330	350,000,000	350,661,248	15,194,658		
5.80%	9/15/2005	9/15/2035	250,000,000	(1,500,000)	(411,465)	1,219,598				248,511,465	98.40	5.840	250,000,000	247,788,223	14,478,460		
6.60%	5/5/2003	5/5/2033	200,000,000	(422,000)	878,008	844,400	2,804,538			100,547,008	85.42	6.291	200,000,000	168,530,178	12,300,988		
6.30%	4/10/2008	4/10/2038	250,000,000	(797,500)	(3,289,471)	1,288,013			3,195,725	250,802,001	101.12	6.291	250,000,000	251,517,400	15,803,810		
6.70%	8/15/2007	8/15/2027	250,000,000	(62,500)	2,348,344	1,379,207				247,586,158	98.04	6.778	250,000,000	248,367,185	16,643,110		
7.00%	3/25/2008	4/10/2038	500,000,000	(3,300,000)	9,237,176	2,591,157			(2,857,334)	497,482,824	97.49	7.235	500,000,000	482,403,198	25,477,088		
3.00%	5/11/2017	5/11/2027	325,000,000	(1,867,800)	2,648,000	1,947,608				323,094,140	98.88	3.457	325,000,000	321,833,015	11,125,534		
4.50%	3/6/2019	3/10/2049	400,000,000	(2,738,000)	3,988,791	4,047,248				390,257,539	98.42	4.598	400,000,000	383,830,792	18,092,240		
Subtotal			3,475,000,000							3,340,388,115			3,475,000,000	3,361,228,700	180,857,457		
Local Bank Term Loan																	
2.98%	6/5/2019	6/5/2022	125,000,000		801,818	40,817				124,488,184	98.80	3.105	125,000,000	124,586,395	3,080,180		
Subtotal			125,000,000							124,488,184			125,000,000	124,586,395	3,080,180		
Special Issuances and P. Loans																	
13.07%	6/6/2026	6/6/2026	2,590,040							2,590,040	100.00	13.070	2,070,347	2,070,347	283,013		
Subtotal			2,590,040							2,590,040			2,070,347	2,070,347	283,013		
Insultured Purchase Contracts																	
Mason County WV-A Series L																	
2.75%	10/1/2018	10/1/2022	50,000,000		808,523	380,370				50,391,578	98.39	2.972	100,000,000	98,608,600	2,000,825		
1.630%	1/15/2016	2/1/2026	75,000,000		748,036	394,400	242,246			74,253,664	98.01	1.689	75,000,000	74,463,334	1,257,442		
1.77%	3/15/2016	2/1/2026	50,275,000		871,091	232,787	180,064			49,703,009	98.86	1.808	50,275,000	49,882,149	916,858		
5.30%	5/19/2010	12/1/2038	50,000,000		649,267	428,659				49,350,733	98.70	5.495	50,000,000	48,571,171	2,729,170		
4.825%	3/17/2010	11/1/2021	17,500,000		534,225	48,865				16,965,778	98.65	4.873	17,500,000	17,418,285	669,180		
1.700%	9/1/2016	9/1/2020	65,360,000		418,278	82,238				64,930,722	98.36	1.688	65,360,000	65,267,784	1,218,275		
2.500%	4/1/2019	4/1/2024	80,000,000		555,307	477,628				79,444,303	98.35	2.889	80,000,000	78,922,172	2,259,800		
2.650%	9/15/2016	9/1/2022	54,375,000		788,642	245,794	272,460			53,886,509	98.59	3.009	54,375,000	53,859,713	1,650,189		
2.850%	5/15/2018	5/1/2022	50,000,000		734,214	228,000	257,108			49,267,786	98.53	3.013	50,000,000	48,518,874	1,462,022		
Subtotal			544,530,000							542,860,295			544,530,000	545,103,009	15,281,482		
Balance Sheetization of Costs Associated with Unamortized Debt Redemptions																	
TOTAL LONG-TERM DEBT																	
Effective Cost of Long-Term Debt																	
													4,110,570,347	4,031,177,250	220,774,909		
														(1,603,362)	403,814		
													4,110,570,347	4,031,177,250	220,774,909		
															4.981%		

**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
APPLICATION OF  
APPALACHIAN POWER COMPANY  
SCC CASE NO. PUR-2020-00259  
Interrogatories and Requests for the Production  
of Documents by the STAFF OF THE STATE CORPORATION COMMISSION  
Staff Set 1  
To Appalachian Power Company**

Interrogatory Staff 1-004:

Please provide the unamortized balance of the loss on reacquired debt associated with unrefunded debt redemptions as of December 31, 2019, and the annual amortization amount as of December 31, 2019. Include supporting dollar amounts by issue.

Response Staff 1-004:

Please see attached Staff 1-004 Attachment 1, which contains the balance of the loss on reacquired debt associated with unrefunded debt redemptions as of December 31, 2019, and the annual amortization amount as of December 31, 2019.

---

The foregoing response is made by Jason M. Yoder, Dir Regulatory Acctg Svcs, on behalf of Appalachian Power Company.

Series	Bond Interest Rate	Date Issued	Date/Maturity Date	Call Date	2018 Y/E Balance	2019 Amortization	2019 Y/E Balance
				FMB_18900001			
	8.125%	1973-07-01	2003-07-01	1993-11-29	87,648.00	16,434.00	71,214.00
	7.125%	1993-11-09	2024-05-01	2004-05-03	452,616.00	84,865.50	367,750.50
	8.750%	1987-02-01	2017-02-01	1994-03-25			
	8.125%	1989-11-01	2019-11-01	1993-05-01		1,162.00	-
	9.875%	1990-12-01	2020-12-01	1994-03-25		257.22	235.78
	9.875%	1990-12-01	2020-12-01	1996-03-31		497.22	455.78
	12.500%	1987-09-01	1997-09-01	1987-03-01			
	16.250%	1982-04-01	1990-04-01	1987-04-01			
	16.250%	1987-09-01	1991-04-01	1987-04-01			
				IPC_18900002			
Series H	5.000%	1998-10-22	2021-11-01	2012-02-13	79,135.00	27,930.00	51,205.00
Series D	5.450%	1993-09-01	2019-06-01	2004-01-12	16,802.00	16,802.00	-
Series K	6.050%	1999-12-01	2024-12-01	2013-02-13	205,722.00	34,769.88	170,952.12
Series J	6.600%	1992-09-15	2022-10-01	2003-06-07	167,469.00	44,658.36	122,810.64
Series B	6.750%	1977-10-01	2007-10-01	1993-10-17	3,507.00	3,507.00	-
Series I	6.850%	1992-05-15	2022-06-01	2003-06-07	92,578.00	24,687.48	67,890.52
Series G	7.400%	1990-01-01	2014-01-01	2000-01-13	155,614.00	26,301.00	129,313.00
Series B	7.500%	1979-08-01	2009-06-01	1992-12-01	81,711.00	21,789.60	59,921.40
Series A	7.750%	1978-07-01	2008-07-01	1992-08-01	48,982.00	13,061.88	35,920.12
Series H	7.875%	1990-10-15	2013-11-01	2003-06-07	13,027.00	3,473.88	9,553.12
Series C	11.000%	1981-02-01	1993-02-01	1991-02-01	2,722.00	725.88	1,996.12
Series E	11.500%	1981-02-01	2001-02-01	1991-02-01	13,589.00	3,623.76	9,965.24
Series F	Auction Mode	2003-11-25	2019-05-01	2008-09-18	6,458.43	6,458.43	-
Series 2007A	Auction Mode	2003-12-11	2019-06-01	2008-09-18	27,782.00	27,782.00	-
Series 2006A	Auction Mode	2007-05-23	2037-05-01	2008-06-06	483,082.91	28,278.00	454,804.91
	Auction Mode	2006-02-14	2036-02-01	2008-06-10	286,122.00	16,748.64	269,373.36

Annual Amortization

Unamortized Balance of the Loss on Recaptured Debt