

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

|   |   |                     |
|---|---|---------------------|
| Electronic Application Of Kentucky Power Company      | ) |                     |
| For (1) A General Adjustment Of Its Rates For         | ) |                     |
| Electric Service; (2) Approval Of Tariffs And Riders; | ) |                     |
| (3) Approval Of Accounting Practices To Establish     | ) | Case No. 2023-00159 |
| Regulatory Assets and Liabilities; (4) A              | ) |                     |
| Securitization Financing Order; And (5) All Other;    | ) |                     |
| Required Approvals And Relief                         | ) |                     |

**REBUTTAL TESTIMONY OF**  
**ADRIEN M. MCKENZIE, CFA**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

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**CASE NO. 2023-00159**

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**LIST OF EXHIBITS**

| <b><u>Exhibit No.</u></b> | <b><u>Description</u></b>                       |
|---------------------------|---|
| AMM-13                    | Implied Cost of Equity—National Authorized ROEs |
| AMM-14                    | Implied Cost of Equity—KPSC Approved ROEs       |
| AMM-15                    | Current Allowed ROEs                            |
| AMM-16                    | Expected Earnings Approach                      |

1 **I. INTRODUCTION**

2 **Q1. Please state your name and business address.**

3 A1. Adrien M. McKenzie, 3907 Red River, Austin, Texas, 78751.

4 **Q2. Are you the same Adrien M. McKenzie that previously submitted prefiled**  
5 **direct testimony in this case?**

6 A2. Yes, I am.

7 **Q3. What is the purpose of your rebuttal testimony?**

8 A3. My purpose is to respond to the testimony of Mr. Richard Baudino, submitted on  
9 behalf of the Kentucky Office of the Attorney General and Kentucky Industrial  
10 Utility Customers, Inc. (“AG-KIUC”), and the testimony of Tyler Comings,  
11 submitted on behalf of Joint Intervenors Mountain Association, Appalachian  
12 Citizens’ Law Center, Kentuckians for the Commonwealth, and Kentucky Solar  
13 Energy Society (“Joint Intervenors”), concerning the fair rate of return on equity  
14 (“ROE”) that Kentucky Power Company (“Kentucky Power” or the “Company”) should  
15 be authorized to earn on its investment in providing electric service. Hereinafter I refer to Mr. Baudino and Mr. Comings collectively as the “Opposing  
16 Witnesses.”  
17

18 **Q4. Are you sponsoring any exhibits?**

19 A4. Yes. I am sponsoring the following exhibits:

- 20 • Exhibit AMM-13 Implied Cost of Equity—National Authorized ROEs
- 21 • Exhibit AMM-14 Implied Cost of Equity—KPSC Approved ROEs
- 22 • Exhibit AMM-15 Current Allowed ROEs
- 23 • Exhibit AMM-16 Expected Earnings Approach

1 **A. Overview and Summary**

2 **Q5. What ROEs are the Opposing Witnesses recommending for Kentucky**  
3 **Power?**

4 A5. Mr. Baudino recommends a 9.70% ROE for the Company, based on a  
5 recommended range of 8.70% to 10.00%.<sup>1</sup> Mr. Comings recommends an ROE of  
6 9.30%, based on cost of equity model results ranging from 9.00% to 9.20%.<sup>2</sup>

7 **Q6. What are the principal conclusions of your rebuttal testimony?**

8 A6. The ROE recommendations of the Opposing Witnesses fall below a fair and  
9 reasonable level for Kentucky Power's utility operations. My rebuttal testimony  
10 demonstrates that:

- 11 • Mr. Baudino's and Mr. Comings' recommended ROEs defy  
12 common sense, especially in light of the recent increase in capital  
13 costs.
- 14 • The ROE recommendations of the other witnesses fall below  
15 accepted benchmarks, with the 9.3% recommendation of Joint  
16 Intervenors being especially punitive.
- 17 • Kentucky Power must be granted an opportunity to earn a return  
18 that is competitive with other utilities and reflects a significant  
19 increase in long-term capital costs. Consideration of current  
20 interest rates and allowed ROEs for other electric utilities  
21 demonstrate that the ROE recommendations of the Opposing  
22 Witnesses are far too low.
  - 23 ○ Changes in Federal Reserve monetary policies and  
24 significantly higher bond yields support the view that the  
25 cost of equity is higher now than in January 2021 when  
26 Kentucky Power's current ROE of 9.3% was established.
  - 27 ○ Adjusting national average allowed ROEs to account for  
28 the recent rise in bond yields implies a cost of equity for  
29 Kentucky Power of 11.0%.
  - 30 ○ Adjusting prior ROEs approved by the Kentucky Public  
31 Service Commission ("Commission") to reflect current  
32 bond yields implies a cost of equity of 11.2%.

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<sup>1</sup> Baudino Direct at 31.

<sup>2</sup> Comings Direct at 26.

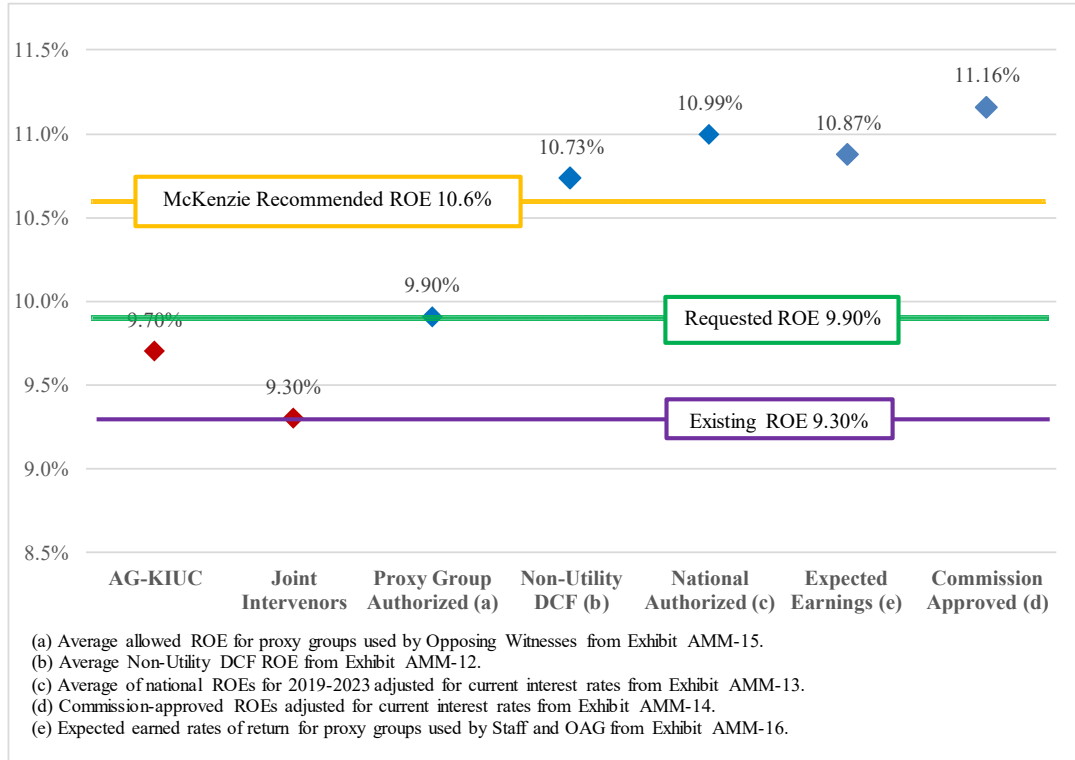
- 1                   ○ Because of the Company’s higher risks and a continued  
2                   upward trend in bond yields, the 9.75% ROE recently  
3                   authorized for Duke Energy Kentucky, Inc. (“Duke  
4                   Energy”) implies an ROE for Kentucky Power exceeding  
5                   10%.
- 6                   ○ Allowed ROEs for the utilities in the proxy groups  
7                   referenced by the Opposing Witnesses average 9.9%.
- 8                   • Numerous flaws undermine the ROE analyses of the Opposing  
9                   Witnesses, including:
- 10                  ○ Reliance on a range of data that fails to reflect investors’  
11                  expectations and current capital market conditions.
- 12                  ○ Application of financial models in a manner that is  
13                  inconsistent with their underlying assumptions.
- 14                  ○ Failure to evaluate model inputs and exclude illogical  
15                  results.
- 16                  ○ Applications of the CAPM that fail to capture a realistic  
17                  appraisal of investors’ forward-looking expectations and  
18                  ignore the implications of firm size, which biases the  
19                  resulting cost of equity estimates downward.
- 20                  • There is no basis to assume that investors reference long-term  
21                  forecasts of Gross Domestic Product (“GDP”) in developing their  
22                  expectations for utilities and Mr. Baudino’s reference to this data  
23                  should be rejected.
- 24                  • Mr. Baudino’s and Mr. Comings’ failure to incorporate a flotation  
25                  cost adjustment contradicts the findings of the financial literature  
26                  and the economic requirements underlying a fair rate of return on  
27                  equity.

28                  Finally, their criticisms of my size adjustment, market return calculation, expected  
29                  earnings approach, and non-utility DCF analysis are without merit. Taken as a  
30                  whole, these shortcomings ensure that the 9.70% and 9.30% ROE  
31                  recommendations of AG-KIUC and Joint Intervenors fall below a fair and  
32                  reasonable level for the Companies’ utility operations.

33                  **Q7. Can you summarize how the opposing witnesses’ ROE recommendations**  
34                  **stack up against comparable benchmarks?**

35                  A7. Yes. Figure AMM-R1 below compares the Opposing Witnesses’ ROE  
36                  recommendations to the benchmarks supported in my rebuttal testimony.

**FIGURE AMM-R1  
ROE BENCHMARK COMPARISON**



1                   As illustrated above, the 9.70% and 9.30% ROE recommendations of Mr.  
 2                   Baudino and Mr. Comings fall 129 and 169 basis points, respectively, below  
 3                   national average authorized ROEs, once adjusted for current interest rates. This  
 4                   ROE disparity is even more evident when considering that utility bond yields  
 5                   have *increased* 343 basis points since an ROE of 9.30% was approved for  
 6                   Kentucky Power, while AG-KIUC and Joint Intervenor are recommending on  
 7                   average a paltry 20 basis point increase to Kentucky Power’s authorized ROE.  
 8                   Mr. Comings’ recommendation of 9.30% is especially punitive. These  
 9                   benchmarks amply illustrate that the Opposing Witnesses’ ROE recommendations  
 10                  violate the economic and regulatory standards underlying a fair ROE, while  
 11                  confirming that the 9.90% ROE requested by Kentucky Power is conservative.

1 **B. Opposing Witnesses' ROE Recommendations Defy Common Sense**

2 **Q8. What is the basic conceptual framework underlying the cost of capital?**

3 A8. The cost of capital is premised on the concept that a dollar today is worth more  
4 than a dollar in the future. The time value of money is a core principle of finance,  
5 and it applies equally to investments in debt and equity securities. For both debt  
6 and equity securities, the return required by investors can be conceptualized as a  
7 sum of several building blocks, including 1) a risk-free rate to compensate for  
8 foregoing current consumption, 2) a risk premium to account for uncertainty over  
9 the timing and payment of future cash flows, and 3) a premium to compensate for  
10 the erosion in purchasing power due to expected price inflation.

11 **Q9. Are there available benchmarks for general changes in capital costs and  
12 inflation rates, on which the cost of capital is based?**

13 A9. Yes. The yields on 30-year Treasury bonds are generally accepted as a guide to  
14 the risk-free rate. While yields on long-term Treasury bonds can be impacted by  
15 monetary policy (e.g., quantitative easing) or a flight to safety in times of turmoil,  
16 they provide an observable benchmark for underlying trends in capital costs.  
17 Similarly, utility bonds are actively traded in the debt markets and the resulting  
18 yields offer a touchstone for the direction and magnitude of the return utilities  
19 must offer to attract capital. Although not specific to long-term capital costs, the  
20 target range for the Federal Funds rate established by the Federal Reserve is also  
21 widely followed by investors as a metric for monetary policies and underlying  
22 capital market conditions.

23 Finally, while there is no single expected inflation rate that applies to all  
24 financial assets, investors' long-term inflation expectations can be inferred from  
25 the published yields on Treasury Inflation-Protected Securities ("TIPS").  
26 Whereas yields on conventional Treasury bonds must compensate investors for



1 any expected erosion in purchasing power due to inflation, buyers of TIPS need  
2 not worry about future inflation because the principal and interest payments are  
3 both indexed to inflation. As a result, the yield difference between conventional  
4 and inflation protected Treasuries of a given maturity provide a gauge of the  
5 future inflation rate expected by market participants.

6 **Q10. Do the Opposing Witnesses agree that bond yield averages, the Federal  
7 Funds rate, and inflation are relevant indicators in evaluating the cost of  
8 capital?**

9 A10. Yes. For example, Mr. Baudino references Treasury yields, utility bond yields,  
10 the Federal Funds rate and inflation extensively in his testimony.<sup>3</sup> Mr. Baudino  
11 also lists “current level of interest rates [and] current levels of inflation” as among  
12 “certain key factors in the economy that are important influences on the current  
13 investor required ROE.”<sup>4</sup> In addition, Mr. Baudino has the following discussion  
14 in his testimony:

15 **Q. Does the level of interest rates affect the allowed ROE for  
16 regulated utilities?**

17 A. Generally, yes. The common stock of regulated utilities tends  
18 to be interest rate sensitive. This means that the cost of equity  
19 for regulated utilities tends to rise and fall with changes in  
20 interest rates. For example, as interest rates rise, the cost of  
21 equity will also rise, and vice versa when interest rates fall.<sup>5</sup>

22 Joint Intervenors witness Comings also cites to Treasury yields throughout  
23 his testimony.<sup>6</sup> AG-KIUC witness Baudino and Joint Intervenors witness  
24 Comings clearly recognize the relevance of Treasury yields and utility bond  
25 yields as indicators of current capital costs. In addition, Mr. Baudino also

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<sup>3</sup> Baudino Direct at 5-11, 21, 26, 29, 34, 37, 41, Table 3, Exhibit RAB-4.

<sup>4</sup> *Id.* at 5.

<sup>5</sup> *Id.*

<sup>6</sup> Comings Direct at 22-24,

1 recognizes that inflation expectations are a key determinant in evaluating the cost  
2 of equity.<sup>7</sup>

3 **Q11. How have these key indicators of capital costs trended since Kentucky**  
4 **Power’s last rate proceeding?**

5 A11. Table AMM-R1 below illustrates the changes in key capital cost indicators that  
6 have taken place since the Commission approved Kentucky Power’s existing  
7 ROE of 9.30%.<sup>8</sup>

**TABLE AMM-R1  
KEY CAPITAL COST INDICATORS**

|                               | <u>January</u><br><u>2021</u> | <u>October</u><br><u>2023</u> | <u>Change</u><br><u>(bp)</u> |
|-------------------------------|-------------------------------|-------------------------------|------------------------------|
| <b>Bond Yields</b>            |                               |                               |                              |
| 10-Yr. Treasury Yield         | 1.08%                         | 4.80%                         | 372                          |
| 30-Yr. Treasury Yield         | 1.82%                         | 4.95%                         | 313                          |
| Baa Utility Bond Yield        | <u>3.18%</u>                  | <u>6.61%</u>                  | <u>343</u>                   |
| <b>Average</b>                | <b>2.03%</b>                  | <b>5.45%</b>                  | <b>343</b>                   |
| <b>Federal Funds Rate</b>     | <b>0.13%</b>                  | <b>5.38%</b>                  | <b>525</b>                   |
| <b>TIPS Implied Inflation</b> | <b>2.12%</b>                  | <b>2.38%</b>                  | <b>26</b>                    |

Sources: <https://fred.stlouisfed.org/>; Moody's Investors Service;  
<https://www.federalreserve.gov/monetarypolicy.htm>.

8 As shown above, key interest rate benchmarks cited by AG-KIUC witness  
9 Baudino and Joint Intervenors witness Comings indicate that investors’ required  
10 return on debt securities has increased on the order of 313 to 372 basis points.  
11 The midpoint of the Federal Reserve’s target range for the federal funds rate has

<sup>7</sup> Baudino Direct at 5, 7-11, 21, 37.

<sup>8</sup> Commonwealth of Kentucky Public Service Commission, Case No. 2020-00174, *Electronic Application Of Kentucky Power Company For (1) A General Adjustment Of Its Rates For Electric Service; (2) Approval Of Tariffs And Riders; (3) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities; (4) Approval Of A Certificate Of Public Convenience And Necessity; And (5) All Other Required Approvals And Relief* (Jan. 13, 2021).

1 increased by 525 basis points, while the expected long-term inflation rate has  
2 increased 26 basis points.

3 **Q12. What is the obvious conclusion from this observable evidence?**

4 A12. The cost of capital—both debt and equity—has increased significantly since  
5 Kentucky Power’s last rate proceeding.

6 **Q13. Does Mr. Baudino recognize the upward trend in bond yields, inflation and  
7 the federal funds rate?**

8 A13. Yes. Figure 1 to Mr. Baudino’s testimony clearly shows that 30-year Treasury  
9 yields are trending upward and are at their highest level since approximately  
10 2011. This same figure also shows that utility bond yields are at their highest  
11 level in over 12 years. Beyond that, Mr. Baudino states that the Federal Funds  
12 rate “was increased several times in 2022 and 2023” and currently “stands at a  
13 target range of 5.25% - 5.50%.”<sup>9</sup> Mr. Baudino’s Figure 2 shows inflation  
14 increasing since bottoming out at 3.0% in June 2023, and Mr. Baudino notes that,  
15 “Inflation has ticked up to 3.7% as of August 2023 and is still higher than the  
16 Fed’s target rate of 2.0%.”<sup>10</sup>

17 **Q14. Have there been any changes in the risks of utilities or Kentucky Power that  
18 might offset this clear upward move in the cost of capital?**

19 A14. No. My direct testimony documented the increasing challenges faced by electric  
20 utilities,<sup>11</sup> with S&P recently observing that, “Since 2020, downgrades outpaced  
21 upgrades by more than 3:1, weakening the median rating on the sector to ‘BBB+’  
22 from ‘A-’, the first time ever that the median rating was in the ‘BBB’ category.”<sup>12</sup>  
23 My direct testimony also illustrated that beta values for my Electric Group have

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<sup>9</sup> Baudino Direct at 7.

<sup>10</sup> *Id.* at 9.

<sup>11</sup> McKenzie Direct at 13-20.

<sup>12</sup> S&P Global Ratings, *The Outlook For North American Regulated Utilities Turns Stable*, RatingsDirect (May 18, 2023).

1 remained elevated since March 2020.<sup>13</sup> Meanwhile, Kentucky Power’s credit  
2 ratings have remained stable at BBB and Baa3. There is no evidence that the  
3 significant increase in capital costs since Case No. 2020-00174 has been mitigated  
4 by declining risk in the utility industry generally, or for Kentucky Power  
5 specifically.

6 **Q15. Do the Opposing Witnesses’ ROE recommendations for Kentucky Power  
7 make sense in light of this increase in capital costs?**

8 A15. No. As summarized in Table AMM-R2 below, the Opposing Witnesses’ ROE  
9 recommendations for Kentucky Power range from 9.30% to 9.70%, and average  
10 9.50%:

**TABLE AMM-R2  
OPPOSING WITNESSES’ ROE RECOMMENDATIONS**

| <b>Witness</b> | <b>ROE<br/>Recommendation</b> |
|----------------|-------------------------------|
| Baudino        | 9.70%                         |
| Comings        | <u>9.30%</u>                  |
| <b>Average</b> | <b>9.50%</b>                  |

11 Despite the evidence documenting an increase in capital costs, the Opposing  
12 Witnesses are recommending either no change to Kentucky Power’s authorized  
13 ROE, or a modest increase. Both of their recommendations are out of line with  
14 the increase in capital costs I have documented above. It is inconceivable that  
15 Kentucky Power’s ROE could have increased an average of only 20 basis points  
16 when yields on Baa-rated utility bonds have increased over 340 basis points. If  
17 9.30% was a fair ROE for Kentucky Power in January 2021, then it stands to  
18 reason that a just and reasonable ROE for the Company is now significantly  
19 higher, and not zero to 40 basis points higher as the Opposing Witnesses are

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<sup>13</sup> McKenzie Direct at 17-18 and Figure 2.

1 recommending. While the cost of equity does not move one-for-one in lockstep  
2 with interest rates, all available evidence indicates that utility ROEs exhibit a  
3 strong positive correlation with bond yields.<sup>14</sup> The fact that the Opposing  
4 Witnesses are recommending, on average, a 20 basis point increase in Kentucky  
5 Power’s ROE when capital costs have substantially increased since the  
6 Company’s 9.30% ROE was authorized indicates that their ROE  
7 recommendations are unmoored from fundamental principles of finance and  
8 violate the basic, common-sense relationship between interest rates, inflation, and  
9 the cost of equity.

10 **Q16. Does Mr. Baudino recognize that interest rates and the cost of equity move**  
11 **together?**

12 A16. Yes. As I previously mentioned, Mr. Baudino states that, “as interest rates rise,  
13 the cost of equity will also rise, and vice versa when interest rates fall.” AG-  
14 KIUC clearly recognizes the direct relationship between interest rates and ROE.

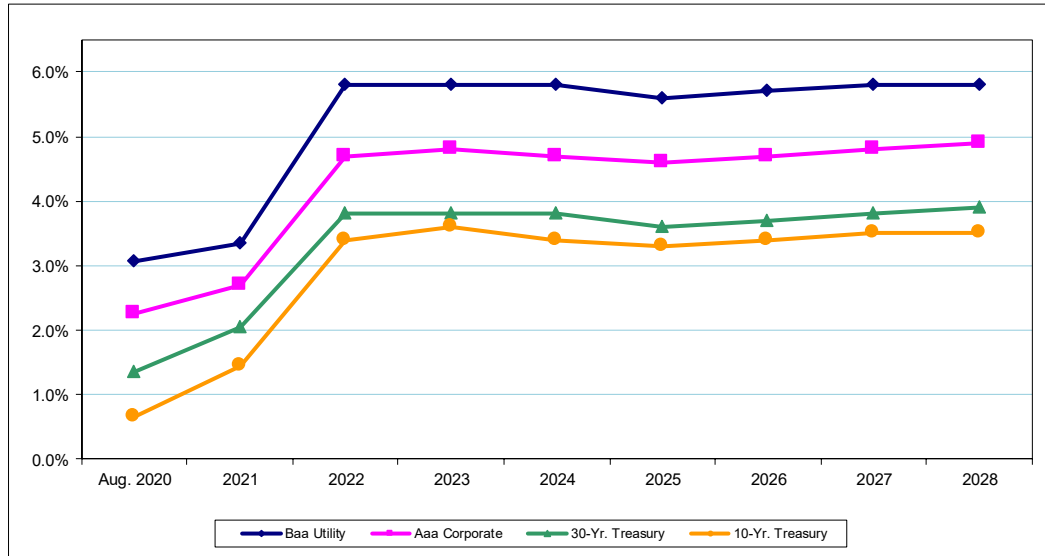
15 **Q17. Do investors expect bond yields to fall over the near term?**

16 A17. No. As illustrated in Figure AMM-R2 below, the most recent long-term  
17 consensus projections from top economists published by Blue Chip document that  
18 bond yields are expected to remain elevated when compared to recent historical  
19 levels.

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<sup>14</sup> This fact is confirmed by my utility risk premium study. See McKenzie Direct at Exhibit AMM-9, page 2.

**FIGURE AMM-R2  
HISTORIC AND PROJECTED INTEREST RATES**



Source: Wolters Kluwer, Blue Chip Financial Forecasts (Jun. 1, 2023); Moody's Investors Service; <https://fred.stlouisfed.org/>.

This evidence shows that long-term capital costs—including the ROE—have increased substantially, and that investors can reasonably expect capital costs to be sustained at least through 2028. The Opposing Witnesses' ROE recommendations fail to account for these realities.

**Q18. What do the facts indicate with regard to the ROE recommendations of the Opposing Witnesses?**

A18. In light of trends in recognized capital cost benchmarks, the ROE recommendations of the Opposing Witnesses are demonstrably insufficient. Kentucky Power is currently authorized an ROE of 9.30%. But despite the fact that yields on Baa-rated utility bonds have increased over 340 basis points, and inflation has also increased since Case No. 2020-00174—which means the cost of equity has climbed—the Opposing Witnesses are arguing that Kentucky Power's ROE should be increased a paltry 20 basis points, on average. Such an outcome would defy common sense and violate accepted principles of finance. The

1 Commission should reject the ROE recommendations of the Opposing Witnesses  
2 on this basis.

3 **C. Opposing Witnesses' ROE Recommendations Fail Regulatory Standards**

4 **Q19. Do allowed ROEs provide a benchmark to evaluate whether the**  
5 **recommended equity returns in this case are sufficient to meet regulatory**  
6 **standards?**

7 A19. Yes. Allowed ROEs provide a gauge of reasonableness for the outcome of a cost  
8 of equity analysis. In considering utilities with comparable risks, investors will  
9 always seek to provide capital to the opportunity with the highest expected return.  
10 If a utility is unable to offer a return similar to that available from other  
11 investment opportunities of equivalent risks, investors will become unwilling to  
12 supply the utility with capital on reasonable terms.

13 **Q20. Do the Opposing Witnesses agree that allowed ROEs for other utilities are**  
14 **relevant to the evaluation of a just and reasonable ROE for Kentucky**  
15 **Power?**

16 A20. Yes. AG-KIUC witness Baudino cites Commission allowed ROEs from 1974 to  
17 2022, making specific reference to allowed ROEs in 1992, 2003 and 2022.<sup>15</sup>  
18 Meanwhile, Mr. Comings references approved ROEs for American Electric  
19 Power Company's ("AEP") other operating companies.<sup>16</sup> This evidence clearly  
20 indicates that the Opposing Witnesses believe that allowed ROEs for other  
21 utilities are relevant to evaluate their recommendations for Kentucky Power.

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<sup>15</sup> Baudino Direct at 34, 40-41, Table 3.

<sup>16</sup> Comings Direct at 17.

1 **Q21. Do the historical allowed ROEs referenced by the Opposing Witnesses**  
2 **provide a direct guide as to a fair ROE for Kentucky Power under current**  
3 **capital market conditions?**

4 A21. No. The data on which these historical allowed ROEs were based does not reflect  
5 investors' current requirements. As I have previously discussed, substantial  
6 evidence highlights a fundamental shift in investors' expectations and a material  
7 increase in the cost of capital. A review of trends in key indicators since  
8 Kentucky Power's 9.30% ROE was approved in January 2021 and the evidence  
9 presented in Table AMM-R1 above supports a finding that capital market  
10 conditions have changed dramatically, and recent historical allowed ROEs  
11 significantly understate investors' current required returns.

12 **Q22. After adjusting for current financial market conditions, what does a**  
13 **comparison with recent allowed ROEs indicate with respect to the Opposing**  
14 **Witnesses' recommendations?**

15 A22. It demonstrates that their recommendations significantly understate Kentucky  
16 Power's cost of equity in today's capital markets. This is shown on Exhibit  
17 AMM-13. On this exhibit I subtract the average Baa utility bond yield  
18 corresponding to the average allowed ROE for electric utilities reported by S&P  
19 Global Market Intelligence in their *RRA Regulatory Focus* ("RRA") report to  
20 compute the implied risk premium. As discussed in my direct testimony,<sup>17</sup> the  
21 equity risk premium expands as interest rates decline and contracts as interest  
22 rates rise. Accordingly, I adjusted each of the historical risk premiums to reflect  
23 the fact that interest rates are now higher than those corresponding to the average  
24 allowed ROEs.

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<sup>17</sup> McKenzie Direct at 54-55.



1           As shown on Exhibit AMM-13, adjusting historical average allowed  
2 ROEs from 2019 to Q3 2023 to reflect current capital market conditions results in  
3 an implied cost of equity ranging from 10.20% to 11.39%, and averaging 10.99%,  
4 for vertically integrated utilities. This confirms that the Opposing Witnesses'  
5 ROE recommendations, which range from 9.30% to 9.70%, are insufficient.

6 **Q23. What do authorized ROEs in Kentucky suggest about the Opposing**  
7 **Witnesses' recommendations?**

8 A23. Prior approved ROEs for electric utilities in Kentucky further highlight the  
9 inadequacy of the Opposing Witnesses' recommendations. As shown on Exhibit  
10 AMM-14, after accounting for the impact of changes in bond yields, the ROEs  
11 approved for Kentucky electric utilities in recent years imply an average ROE  
12 under current capital market conditions of 11.16%. This provides additional  
13 confirmation that ROE recommendations in a range of 9.30% to 9.70% are vastly  
14 understated.

15 **Q24. Joint Intervenors witness Comings cites to Kentucky Power's currently**  
16 **authorized ROE of 9.30%.<sup>18</sup> What would this equate to in today's capital**  
17 **markets?**

18 A24. After adjusting for current financial market conditions, Kentucky Power's  
19 currently authorized ROE of 9.30%, which was authorized in January 2021,  
20 would be substantially higher. The calculation supporting this conclusion is  
21 presented on Exhibit AMM-14. The average yield on Baa utility bonds over the  
22 duration of Kentucky Power's last rate proceeding was 3.14%, and it is now  
23 6.61%. Adding the adjusted risk premium of 4.67% to the October 2023 Baa  
24 utility bond yield of 6.61% results in an implied cost of equity of 11.28% for  
25 Kentucky Power in today's capital markets. This benchmark calculation further

---

<sup>18</sup> Comings Direct at 6-8, 15.

1 reinforces the point that the Opposing Witnesses' ROE recommendations for  
2 Kentucky Power are far below a reasonable level.

3 **Q25. The Commission recently awarded Duke Energy an ROE of 9.75%.<sup>19</sup> Does**  
4 **this finding support the recommendations of the Opposing Witnesses?**

5 A25. No. First, it is instructive to note that this recent determination exceeds the ROE  
6 recommendations of both Mr. Baudino and Mr. Comings. Second, this 9.75%  
7 ROE does not apply directly to Kentucky Power because the Company is viewed  
8 as having higher investment risks than Duke Energy. Whereas Duke Energy is  
9 rated Baa1 by Moody's, Kentucky Power's rating is two notches lower at Baa3,  
10 which is the lowest investment grade rating. Meanwhile, S&P's most recent risk  
11 profile assessment of the utility industry ranked Duke Energy at 144 out of the  
12 220 issuers included in its survey, while Kentucky Power was ranked significantly  
13 lower at 193.<sup>20</sup> This is consistent with the challenging economic climate in  
14 eastern Kentucky and the fact that Kentucky Power has been consistently unable  
15 to earn its allowed ROE.

16 Finally, apart from this critical distinction in risk, changes in capital  
17 market conditions also support a higher ROE in this proceeding. The table below  
18 compares average yields at the time of the hearings in Case No. 2022-00372 with  
19 those prevailing during October 2023.

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<sup>19</sup> Kentucky Public Service Commission, Case No. 2022-00372, Order (Oct. 12, 2023).

<sup>20</sup> S&P Global Ratings, *North American Electric, Gas, And Water Regulated Utilities, Strongest to Weakest*, Issuer Ranking (Aug. 15, 2023).

**TABLE AMM-R3  
RECENT CHANGES IN BOND YIELDS**

|                        | (a)<br>Case No.<br><u>2022-00372</u> | (b)<br>October<br><u>2023</u> | Change<br><u>(bps)</u> |
|------------------------|--------------------------------------|-------------------------------|------------------------|
| 10-Yr. Treasury Yield  | 3.45%                                | 4.80%                         | 135                    |
| 30-Yr. Treasury Yield  | 3.79%                                | 4.95%                         | 116                    |
| Baa Utility Bond Yield | 5.62%                                | 6.61%                         | 99                     |

(a) Average yield for May 9-12, 2023 from <https://fred.stlouisfed.org/> and Moody's Investors Service, CreditTrends.

(b) Average yield for October 2023 from <https://fred.stlouisfed.org/> and Moody's Investors Service, CreditTrends.

1           As illustrated in the table above, bond yields have increased significantly  
2 since the hearings in Case No. 2022-00372. Coupled with the higher risks  
3 associated with an investment in Kentucky Power, this evidence supports an ROE  
4 finding for the Company in excess of 10%.

5 **Q26. What other factor should be considered in evaluating the implications of the**  
6 **Commission's recent decision in Case No. 2022-00372?**

7 A26. Along with an ROE of 9.75%, the Commission also approved a capital structure  
8 for Duke Energy that includes 52.145% common equity. This results in a  
9 weighted cost of equity of approximately 5.08%. Meanwhile, Kentucky Power's  
10 requested ROE of 9.9% and its common equity ratio of 41.62% imply a weighted  
11 cost of equity of 4.12%, which falls far below what the Commission recently  
12 approved as just and reasonable for Duke Energy. Duke Energy's 52.145%  
13 common equity ratio implies significantly less financial risk than the Company's  
14 requested common equity ratio of 41.62%, which provides further confirmation  
15 that the ROE approved for Kentucky Power should be higher than the 9.75%  
16 authorized for Duke Energy.<sup>21</sup>

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<sup>21</sup> In fact, the Commission could set Kentucky Power's ROE as high as 12.22% without exceeding the weighted average cost of equity recently granted to Duke Energy.

1 **Q27. Baa utility bond yields currently stand at 6.61%. What ROEs were being**  
2 **authorized the last time utility bond yields were at present levels?**

3 A27. The last time that Baa utility bond yields were at their current levels was over the  
4 2003 to 2004 period, when Baa yields averaged 6.40% to 6.84%. This  
5 information is presented in Table AMM-R4 below.

**TABLE AMM-R4  
ELECTRIC ROES AND UTILITY BOND YIELDS**

| <b>Year</b>    | <b>Authorized<br/>Electric<br/>ROE</b> | <b>Average Baa<br/>Utility Bond<br/>Yield</b> |
|----------------|--|---|
| 2003           | 10.96%                                 | 6.84%   |
| 2004           | <u>10.81%</u>                          | <u>6.40%</u>                                  |
| <b>Average</b> | <b>10.89%</b>                          | <b>6.62%</b>                                  |

Source: Exhibit AMM-9; Moody's Investors Service.

6 As shown in the table above, Baa utility bonds averaged 6.62% in the 2003 to  
7 2004 period, and the average authorized ROE for electric utilities was 10.89% in  
8 the same period. This evidence supports my 10.6% ROE recommendation and  
9 clearly demonstrates that the Opposing Witnesses' recommended ROEs are far  
10 below a reasonable level.

11 **Q28. How do the Opposing Witnesses' ROE proposals compare to authorized**  
12 **returns for the specific utilities in their proxy groups?**

13 A28. The ROE recommendations of AG-KIUC and Joint Intervenors are also below the  
14 current allowed returns reported to investors for the electric companies in their  
15 respective proxy groups. Current authorized rates of return for the electric  
16 utilities in the Opposing Witnesses' proxy groups, as reported by the Value Line  
17 Investment Survey ("Value Line"), are shown on pages 1-2 of Exhibit AMM-15  
18 and summarized in Table AMM-R5 below:

**TABLE AMM-R5  
PROXY GROUP ALLOWED ROES**

|                |              |
|----------------|--------------|
| Baudino        | 9.94%        |
| Comings        | 9.87%        |
| <b>Average</b> | <b>9.90%</b> |

1           It is unreasonable for Mr. Baudino and Mr. Comings to presume that the  
2 Company could attract capital for investment at an allowed ROE in a range of  
3 9.30% to 9.70%. Their average recommended ROE of 9.50% falls well below the  
4 opportunities available from their own proxy groups of utilities.

5 **Q29. What other benchmark indicates that the Opposing Witnesses' ROE**  
6 **recommendations are too low?**

7 A29. Expected earned rates of return for other utilities provide another useful  
8 benchmark of reasonableness. The expected earnings approach is predicated on  
9 the comparable earnings test, which was developed as a direct result of the  
10 Supreme Court decisions in *Bluefield*<sup>22</sup> and *Hope*<sup>23</sup>. This test recognizes that  
11 investors compare the allowed ROE with returns available from other alternatives  
12 of comparable risk.<sup>24</sup>

13           Importantly, the expected earnings approach explicitly recognizes that  
14 regulators do not set the returns that investors earn in the capital markets.  
15 Regulators can only establish the allowed return on the value of a utility's  
16 investment, as reflected on its accounting records. As a result, the expected  
17 earnings approach provides a direct guide to ensure that the allowed ROE is  
18 similar to what other utilities of comparable risk will earn on invested capital.  
19 This opportunity cost test does not require theoretical models to indirectly infer

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<sup>22</sup> *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923) ("*Bluefield*").

<sup>23</sup> *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) ("*Hope*").

<sup>24</sup> I refer to the comparable earnings and expected earnings methods interchangeably in this testimony. While comparable earnings methods tend to rely on historical data and expected earnings methods rely on projected data, the underlying principles are similar in both approaches.

1 investors' perceptions from stock prices or other market data. As long as the  
2 proxy companies are similar in risk, their expected earned returns on invested  
3 capital provide a direct benchmark for investors' opportunity costs that is  
4 independent of fluctuating stock prices, market-to-book ratios, debates over DCF  
5 growth rates, or the limitations inherent in any theoretical model of investor  
6 behavior.

7 **Q30. Has the expected earnings approach been recognized as a valid ROE**  
8 **benchmark?**

9 A30. Yes. This method predominated before the DCF model became fashionable with  
10 academic experts, and it has long been referenced and relied on in regulatory  
11 proceedings.<sup>25</sup> For example, in approving an ROE for electric utility operations,  
12 the North Carolina Utilities Commission concluded that:

13 In prior cases, the Commission has given significant weight to the  
14 results of the Expected Earnings methodology, which stands  
15 separate and apart from the market-based methodologies (e.g., the  
16 DCF or CAPM) also used by ROE experts. The Commission  
17 chooses to do so again in this case.<sup>26</sup>

18 Similarly, the Ohio Public Utility Commission is required by statute to consider  
19 prospective earned rates of return in evaluating the impact of electric security  
20 plans.<sup>27</sup>

21 As S&P observed, “[h]istorically, there have been two approaches in  
22 calculating ROE in regulatory proceedings, a comparable earnings approach and a  
23 market analysis. In a comparable earnings approach, similar investments with  
24 similar risks are analyzed to determine an appropriate ROE.” A textbook

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<sup>25</sup> See, e.g., Nat'l Ass'n of Regulatory Util. Comm'rs, *Utility Regulatory Policy in the U.S. and Canada, 1995-1996* (Dec. 1996). The Virginia State Corporation Commission is required by statute to consider the earned returns on book value, which establish lower and upper boundaries for the allowed ROE. Virginia Code § 56-585.1.A.2.a.

<sup>26</sup> North Carolina Utilities Commission, Docket No. E-7, SUB 1187, *et al.*, *Order Accepting Stipulations, Granting Partial Rate Increase, and Requiring Customer Notice* (Mar. 31, 2021) at 94.

<sup>27</sup> Ohio R.C. 4928.143(E).

1 prepared for the Society of Utility and Regulatory Financial Analysts points out  
2 that the comparable earnings method is firmly anchored in the regulatory tradition  
3 of the *Bluefield* and *Hope* cases, as well as sound regulatory economics.<sup>28</sup>  
4 Similarly, *New Regulatory Finance* concludes that, “because the investment base  
5 for ratemaking purposes is expressed in book value terms, a rate of return on book  
6 value, as is the case with Comparable Earnings, is highly meaningful.”<sup>29</sup>

7 **Q31. What ROE is implied by the expected earnings approach for the Opposing**  
8 **Witnesses’ proxy groups?**

9 A31. The year-end returns on common equity projected by the Value Line over its  
10 forecast horizon for the firms in the Opposing Witnesses’ proxy groups are shown  
11 on Exhibit AMM-16. As shown there, reference to expected earnings implies an  
12 annual average cost of equity for the proxy groups used by the Opposing  
13 Witnesses of 10.9%, once adjusted to a mid-year basis. These book return  
14 estimates are an “apples to apples” comparison to the ROE recommendations of  
15 the Opposing Witnesses.

16 **Q32. What other evidence indicates that the Opposing Witnesses’ recommended**  
17 **ROEs fail to meet regulatory standards?**

18 A32. As discussed in my direct testimony,<sup>30</sup> expected rates of return for firms in the  
19 competitive sector of the economy are also relevant in determining an appropriate  
20 allowed ROE for rate-setting purposes. The idea that investors evaluate utilities  
21 against the returns available from other investment alternatives—including the  
22 low-risk companies in my non-utility proxy group—is a fundamental cornerstone  
23 of modern financial theory. Aside from this theoretical underpinning, any casual  
24 observer of stock market commentary and the investment media quickly comes to

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<sup>28</sup> *Id.*

<sup>29</sup> Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 395.

<sup>30</sup> McKenzie Direct at 63-67.

1 the realization that investors' choices are almost limitless. It follows that utilities  
2 must offer a return that can compete with other risk-comparable alternatives, or  
3 capital will simply go elsewhere.

4 In fact, returns in the competitive sector of the economy form the very  
5 foundation for utility ROEs because regulation purports to serve as a substitute for  
6 the actions of competitive markets. The Supreme Court has recognized in *Hope*  
7 that the degree of risk, not the nature of the business, is relevant in evaluating an  
8 allowed ROE for a utility. The cost of capital is an opportunity cost based on the  
9 returns that investors could realize by putting their money in other alternatives,  
10 and the total capital invested in utility stocks is only the tip of the iceberg of total  
11 common stock investment.

12 **Q33. Does Mr. Baudino recognize in his testimony that investors evaluate the**  
13 **returns available from utilities with other alternatives?**

14 A33. Yes. For example, AG-KIUC witness Baudino recognizes that the cost of  
15 common equity “should be comparable to the returns of other firms with similar  
16 risk structures.”<sup>31</sup> His testimony also contains this passage:

17 For example, suppose that an investor decides to purchase the  
18 stock of a publicly traded regulated electric utility. That investor  
19 will make the decision based on the expectation of dividend  
20 payments and perhaps some appreciation in the stock's value over  
21 time; however, that investor's opportunity cost is measured by  
22 what she or he could have invested in as the next best alternative.  
23 That alternative could have been another utility stock, a utility  
24 bond, a mutual fund, a money market fund, or any other number of  
25 investment vehicles.<sup>32</sup>

26 Mr. Baudino clearly recognizes that the opportunity cost principle is not  
27 constrained to investments in other utilities. As AG-KIUC states, “The key  
28 determinant in deciding whether to invest, however, is based on comparative

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<sup>31</sup> Baudino Direct at 4.

<sup>32</sup> *Id.* at 4.



1 levels of risk.” In this regard, a DCF analysis on non-utility companies that are  
2 comparable to Kentucky Power in terms of risk satisfies Mr. Baudino’s  
3 understanding of the cost of equity.

4 **Q34. What were the results of your ROE analysis for the Non-Utility Group?**

5 A34. As shown on page 3 of Exhibit AMM-12, the ROEs for the non-utility group  
6 reported in my direct testimony range from 10.4% to 10.9%, and average 10.7%.  
7 Considering that a comparison of objective risk indicators shows my non-utility  
8 group to be slightly less risky than the Utility Group and Kentucky Power,<sup>33</sup> this  
9 guideline also confirms that the ROE recommendations of the Opposing  
10 Witnesses are insufficient.

11 **Q35. What do these benchmarks you discuss imply with respect to the Opposing**  
12 **Witnesses’ ROE recommendations?**

13 A35. Based on these comparisons, the Opposing Witnesses’ ROE recommendations are  
14 below any reasonable estimate of Kentucky Power’s cost of equity.

15 **Q36. What are the implications of setting an ROE that is below the returns**  
16 **available from other investments of comparable risk?**

17 A36. Adopting an ROE for the Company that is well below the ROEs for comparable  
18 utilities could lead investors to view the regulatory framework as unsupportive.  
19 Security analysts study regulatory orders to advise investors where to invest their  
20 money. Moody’s noted that, “[f]undamentally, the regulatory environment is the  
21 most important driver of our outlook.”<sup>34</sup> Similarly, S&P concluded that “[t]he  
22 regulatory framework/regime’s influence is of critical importance when assessing  
23 regulated utilities’ credit risk because it defines the environment in which a utility

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<sup>33</sup> McKenzie Direct at Table 7.

<sup>34</sup> Moody’s Investors Service, *Regulation Will Keep Cash Flow Stable As Major Tax Break Ends*, Industry Outlook (Feb. 19, 2014).

1 operates and has a significant bearing on a utility's financial performance."<sup>35</sup>

2 Value Line summarizes these sentiments:

3 As we often point out, the most important factor in any utility's  
4 success, whether it provides electricity, gas, or water, is the  
5 regulatory climate in which it operates. Harsh regulatory  
6 conditions can make it nearly impossible for the best run utilities to  
7 earn a reasonable return on their investment.<sup>36</sup>

8 In evaluating a fair ROE for Kentucky Power in this case, the Commission has an  
9 opportunity to show that it recognizes the importance of a balanced regulatory  
10 regime.

11 **Q37. Do customers benefit when investors have confidence that the regulatory  
12 environment is stable and constructive?**

13 A37. Yes. When investors are confident that a utility has supportive regulation, they  
14 will make funds available on more reasonable terms, even in times of turmoil in  
15 the financial markets. As noted above, regulatory signals are a primary driver of  
16 investors' risk assessment for utilities and changing course from the path of  
17 financial strength would be extremely short-sighted. Customers and the service  
18 area economy enjoy the benefits that come from ensuring that the utility has the  
19 financial wherewithal to take whatever actions are required to ensure reliable  
20 service.

## 21 II. RESPONSE TO AG-KIUC WITNESS BAUDINO

22 **Q38. How does Mr. Baudino arrive at his recommended cost of equity?**

23 A38. Mr. Baudino's application of the DCF model produces cost of equity estimates in  
24 the range of 8.86% to 9.83%, with the midpoint being 9.35%.<sup>37</sup> While his  
25 alternative applications of the CAPM approach results in ROE estimates ranging

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<sup>35</sup> Standard & Poor's Corporation, *Key Credit Factors For The Regulated Utilities Industry*, RatingsDirect (Nov. 19, 2013).

<sup>36</sup> Value Line Investment Survey, *Water Utility Industry*, January 13, 2017, p. 1780.

<sup>37</sup> Baudino Direct at 21.

1 from 8.72% to 13.90%, Mr. Baudino concludes that the reasonable range of his  
2 CAPM analyses is 8.72% to 10.0%.<sup>38</sup> Ultimately, Mr. Baudino lands on a cost of  
3 equity range of 8.70% to 10.0% and recommends an ROE for Kentucky Power of  
4 9.70%.<sup>39</sup> He selects an ROE from above the midpoints “to recognize the  
5 increasing long-term bond yields and proxy group dividend yields . . . as well as  
6 KPC’s Baa3 Moody’s credit rating, which is Moody’s lowest investment grade  
7 rating.”<sup>40</sup>

8 **Q39. Does Mr. Baudino’s decision to recommend an ROE from the upper end of**  
9 **his range meaningfully account for the impact of rising interest rates, higher**  
10 **dividend yields, or Kentucky Power’s higher risk?**

11 A39. No. As I documented earlier, even the 10% uppermost end of Mr. Baudino’s cost  
12 of equity range is inadequate to account for these considerations.

13 **Q40. What is your assessment of Mr. Baudino’s ROE testimony and**  
14 **recommendation?**

15 A40. Mr. Baudino’s recommendation is too low. Several specific factors detract from  
16 his analysis. First and foremost, Mr. Baudino fails to apply sufficient checks of  
17 reasonableness to test his DCF results. His CAPM approach is significantly  
18 flawed and he ignores other accepted benchmarks, such as the utility risk  
19 premium, expected earnings, and ECAPM methodologies, or a review of required  
20 returns for non-utility companies. Had Mr. Baudino employed these other  
21 approaches, he would have seen that his recommendation, which emphasized  
22 DCF results, is not reasonable.

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<sup>38</sup> *Id.* at 3.

<sup>39</sup> *Id.* at 31.

<sup>40</sup> *Id.* at 31-32.

1 **Q41. Mr. Baudino argues that, “The relevant consideration should be the DCF**  
2 **results for the utility proxy group that I employed in my analysis.”<sup>41</sup> Do you**  
3 **agree?**

4 A41. No. As I discuss in my direct testimony,<sup>42</sup> it customary to consider the results of  
5 multiple approaches when evaluating a just and reasonable ROE. As Mr.  
6 Comings declares, “The unknowability of the cost of equity necessitates using  
7 multiple models.”<sup>43</sup> I agree with Mr. Comings. It is widely recognized that no  
8 single method can be regarded as failsafe; with all approaches having advantages  
9 and shortcomings. Consideration of the results of alternative approaches reduces  
10 the potential for error associated with any single quantitative method. The use of  
11 multiple cost of equity methods helps mitigate the impact of any temporary  
12 market anomalies that may be present in the market data of one company at a  
13 particular time. There is also a higher likelihood that random errors from multiple  
14 estimates will be offsetting and result in smaller cumulative error than random  
15 error from a single estimate.

16 As Federal Energy Regulatory Commission (“FERC”) has noted, “[t]he  
17 determination of rate of return on equity starts from the premise that there is no  
18 single approach or methodology for determining the correct rate of return.”<sup>44</sup>  
19 Similarly, a publication of the Society of Utility and Regulatory Financial  
20 Analysts concluded that:

21 Each model requires the exercise of judgment as to the  
22 reasonableness of the underlying assumptions of the methodology  
23 and on the reasonableness of the proxies used to validate the  
24 theory. Each model has its own way of examining investor  
25 behavior, its own premises, and its own set of simplifications of  
26 reality. Each method proceeds from different fundamental

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<sup>41</sup> *Id.* at 44.

<sup>42</sup> McKenzie Direct at 37-38.

<sup>43</sup> Comings Direct at 16.

<sup>44</sup> *Northwest Pipeline Co.*, Opinion No. 396-C, 81 FERC ¶ 61,036 at 4 (1997).

1 premises, most of which cannot be validated empirically.  
2 Investors clearly do not subscribe to any singular method, nor does  
3 the stock price reflect the application of any one single method by  
4 investors.<sup>45</sup>

5 Similarly, a primer on cost of capital issues prepared by the National  
6 Association of Regulatory Utility Commissioners (“NARUC”) concluded:

7 Investors, investment bankers, and corporate financial  
8 professionals use multiple models when estimating the cost of  
9 equity. Likewise, it is desirable for regulators to also use multiple  
10 models when evaluating the cost of equity.<sup>46</sup>

11 This contradicts Mr. Baudino’s decision to place greater emphasis on DCF  
12 results.<sup>47</sup>

13 **Q42. Mr. Baudino criticizes the CAPM because “a considerable amount of**  
14 **judgment must be employed in determining the market return and expected**  
15 **risk premium elements of the CAPM equation.”<sup>48</sup> Does this support Mr.**  
16 **Baudino’s decision to emphasize his DCF results?**

17 A42. No. Analytical methodologies such as the DCF model are inherently abstractions  
18 of reality. Underlying DCF theory requires any number of assumptions, most of  
19 which differ considerably from the situation that confronts actual investors in the  
20 capital markets.<sup>49</sup> Furthermore, as the submissions in this proceeding make clear,  
21 virtually every element of the DCF model is disputed. The CAPM approach is no  
22 different than the DCF model in these important aspects and is a valuable tool in  
23 the ROE estimation process.

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<sup>45</sup> David C. Parcell, *The Cost of Capital – A Practitioner’s Guide*, Society of Utility and Regulatory Financial Analysts (2010) at 84.

<sup>46</sup> National Association of Regulatory Utility Commissioners, *A Cost of Capital and Capital Markets Primer for Utility Regulators* (April 2020).

<sup>47</sup> Baudino Direct at 3.

<sup>48</sup> *Id.* at 24.

<sup>49</sup> These requirements include a flat yield curve; a constant growth rate; a constant P/E ratio; a constant dividend payout ratio; no stock issuances or purchases; dividends, earnings, book value, and stock price all grow at the same rate; and all of these conditions hold to infinity.

1 As explained in *New Regulatory Finance*, “[r]eliance on any single  
2 method or preset formula is inappropriate when dealing with investor expectations  
3 because of possible measurement difficulties and vagaries in individual  
4 companies’ market data.”<sup>50</sup> The Commission clearly can and should consider  
5 additional relevant ROE benchmarks, especially during times of turmoil in the  
6 economy and capital markets. As *New Regulatory Finance* further explained:

7 [by relying solely on the DCF model at a time when the  
8 fundamental assumptions underlying the DCF model are tenuous, a  
9 regulatory body greatly limits its flexibility and increases the risk  
10 of authorizing unreasonable rates of return. The same is true for  
11 any one specific model.<sup>51</sup>

12 The CAPM and other methods are relied on by investors in making their  
13 investment decisions and, contrary to Mr. Baudino’s position, their importance  
14 should not be minimized in the regulatory process.<sup>52</sup>

#### 15 A. Discounted Cash Flow Model

16 **Q43. What are the specific shortcomings that you have identified in Mr. Baudino’s**  
17 **DCF analysis?**

18 A43. While Mr. Baudino’s application of the DCF model is straightforward, there are  
19 problems with his approach. First, his analysis relies on stale stock price data.  
20 Second, he includes growth rates in dividends per share (“DPS”), which are not  
21 likely to provide a meaningful guide to investors’ current growth expectations.<sup>53</sup>  
22 Third, Mr. Baudino averages all the individual growth rates for this proxy group

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<sup>50</sup> Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 428.

<sup>51</sup> *Id.* at 28.

<sup>52</sup> Financial research suggests that the CAPM may be more closely aligned with the factors driving investors’ decisions. Jonathan B. Berk and Jules H. van Binsberg, “How Do Investors Compute the Discount Rate? They Use the CAPM,” *Financial Analysts Journal*, Vo. 73, No. 2 (Second Quarter 2017).

<sup>53</sup> In fact, Mr. Baudino ultimately elected to ignore these results himself, noting that, “The ROE results using Value Line dividend growth are near and below 8.0%, values that are far too conservative given the current economic conditions of rising interest rates and inflation.” Baudino Direct at 20-21.

1 firms and computes a single DCF estimate for each growth rate source. This  
2 approach masks the presence of extreme data and biases his results downward.

3 **Q44. Does Mr. Baudino’s six month dividend yield calculation bias his DCF**  
4 **results?**

5 A44. Yes. The stock price in the dividend yield component of the DCF model should  
6 be the current stock price. The recognized treatise, *New Regulatory Finance*,  
7 observed that “[c]onceptually, the stock price to employ is the current price of the  
8 security at the time of estimating the cost of equity, rather than some historical  
9 high-low or weighted average stock price over an arbitrary historical time  
10 period.”<sup>54</sup> This publication explained that the DCF model represents an attempt  
11 to estimate investors’ forward-looking expectations, and that current stock prices  
12 provide a superior guide to future prices than any historical average. Also, the  
13 DCF model involves matching investors’ growth expectations at a point in time  
14 with their underlying valuation of the common stock. As *New Regulatory*  
15 *Finance* notes, “[s]ince the current stock price  $P_0$  is caused by the growth foreseen  
16 by investors at the present time and not at any other time, it is clear that the use of  
17 spot prices is preferable.”<sup>55</sup>

18 While an average of recent values stock prices may be useful to smooth  
19 out day-to-day volatility, there is nothing current about a stock price based on six  
20 months of data. Since utility stock prices have generally been falling over the last  
21 six months, Mr. Baudino’s decision to calculate a dividend yield based on six  
22 months of data will bias his DCF ROE results downward.

23 As Mr. Baudino confirms, “The monthly trend [in dividend yield] was  
24 upward over the six-month period, rising from 3.63% in April to 3.89% in

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<sup>54</sup> Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 279.

<sup>55</sup> *Id.* at 280.

1 August.”<sup>56</sup> Later in his testimony Mr. Baudino drives home the importance of  
2 using current stock prices within the DCF model. In his criticism of my expected  
3 earnings approach, Mr. Baudino states:

4 Forecasted returns from Value Line will not be as reliable or as  
5 accurate as a properly specified DCF analysis using current stock  
6 prices. Through current stock prices, investors reveal their return  
7 requirements through what they are willing to pay in the  
8 marketplace for the stocks of regulated electric utilities.<sup>57</sup>

9 I agree with Mr. Baudino that current stock prices are appropriate within the DCF  
10 model. His use of stale stock price data is at odds with the DCF assumptions, and  
11 it undermines the reliability of his DCF ROE estimates.

12 **Q45. Why do you take issue with Mr. Baudino’s reference to DPS growth rates?**

13 A45. As documented in my direct testimony,<sup>58</sup> future trends in earnings per share  
14 (“EPS”), which provide the source for future dividends and ultimately support  
15 share prices, play the pivotal role in determining investors’ long-term growth  
16 expectations. The continued success of investment services such as IBES, Value  
17 Line, and Zacks, and the fact that projected growth rates from such sources are  
18 widely referenced, provides strong evidence that investors give considerable  
19 weight to analysts’ earnings projections in forming their expectations for future  
20 growth. The importance of earnings in evaluating investors’ expectations and  
21 requirements is well accepted in the investment community, and surveys of  
22 analytical techniques relied on by professional analysts indicate that growth in  
23 EPS is far more influential than trends in DPS. As explained in *New Regulatory*  
24 *Finance*:

25 Because of the dominance of institutional investors and their  
26 influence on individual investors, analysts’ forecasts of long-run  
27 growth rates provide a sound basis for estimating required returns.

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<sup>56</sup> Baudino Direct at 18.

<sup>57</sup> *Id.* at 41.

<sup>58</sup> McKenzie Direct at 41-42.



1 Financial analysts exert a strong influence on the expectations of  
2 many investors who do not possess the resources to make their own  
3 forecasts, that is, they are a cause of  $g$  [growth].<sup>59</sup>

4 The availability of projected EPS growth rates is also key to investors  
5 relying upon this measure as compared to future trends in DPS. Apart from Value  
6 Line, investment advisory services do not generally publish comprehensive DPS  
7 growth projections, and this scarcity of dividend growth rates relative to the  
8 abundance of EPS forecasts attests to their relative influence. In fact, Mr.  
9 Baudino admits that “Value Line is the only source of which I am aware that  
10 forecasts dividend growth.”<sup>60</sup>

11 The fact that analyst EPS growth estimates are routinely referenced in the  
12 financial media and in investment advisory publications implies that investors use  
13 them as a primary basis for their expectations. As observed in *New Regulatory*  
14 *Finance*:

15 The sheer volume of earnings forecasts available from the  
16 investment community relative to the scarcity of dividend forecasts  
17 attests to their importance. The fact that these investment  
18 information providers focus on growth in earnings rather than  
19 growth in dividends indicates that the investment community  
20 regards earnings growth as a superior indicator of future long-term  
21 growth. Surveys of analytical techniques actually used by analysts  
22 reveal the dominance of earnings and conclude that earnings are  
23 considered far more important than dividends.<sup>61</sup>

24 While I do not rely solely on EPS projections in applying the DCF model,<sup>62</sup> my  
25 evaluation clearly supports greater reliance on EPS growth rate projections than  
26 other alternatives. Similarly, my direct testimony documents the Commission’s

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<sup>59</sup> Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 298.

<sup>60</sup> Baudino Direct at 19.

<sup>61</sup> Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 302-303.

<sup>62</sup> As discussed in my direct testimony, I also examined the “br+sv”, sustainable growth rates for the companies in my proxy groups. McKenzie Direct at 40-42.

1 preference for relying on analysts' growth forecasts, which is supported by the  
2 findings of other regulatory agencies.<sup>63</sup>

3 Growth rates in DPS are not likely to provide a meaningful guide to  
4 investors' current growth expectations. The importance of earnings in evaluating  
5 investors' expectations and requirements is well accepted in the investment  
6 community, and surveys of analytical techniques relied on by professional  
7 analysts indicate that growth in EPS is far more influential than trends in DPS.

8 **Q46. Are there other problems with Mr. Baudino's DCF analysis?**

9 A46. Yes. I disagree with Mr. Baudino's decision to average all individual growth  
10 rates across the proxy group and then compute a single DCF estimate for each  
11 growth rate source. Each growth rate represents a stand-alone estimate of  
12 investors' future expectations, and each value should be evaluated on its own  
13 merits. The fact that an average of several growth rates might produce a DCF  
14 estimate that could be considered reasonable does not absolve the need to evaluate  
15 each underlying growth rate separately.

16 For example, consider a utility with a dividend yield of 3.5% and three  
17 hypothetical growth estimates of 0.0%, 6.5%, and 14.0%. Under Mr. Baudino's  
18 method, the DCF estimate would be computed by adding the 6.8% average of the  
19 three individual growth rates to the dividend yield, resulting in a cost of equity  
20 estimate of 10.3%. The problem with this method is that it disguises the fact that  
21 two of the underlying growth rates—0.0% and 14.0%—do not provide a  
22 meaningful guide to investors' expectations. Rather than averaging the good with  
23 the bad, each implied cost of equity estimate (in this example, 3.5%, 10.0%, and  
24 17.5%) should be evaluated on a stand-alone basis.<sup>64</sup> Mr. Baudino simply

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<sup>63</sup> McKenzie Direct at 42-44.

<sup>64</sup> The implied cost of equity estimates are calculated as the sum of the dividend yield (3.5%) and the respective growth rates (0.0%, 6.5%, and 14.0%).

1 calculates the average of the individual growth rates with no consideration for the  
2 reasonableness of the underlying data. Because Mr. Baudino failed to perform  
3 this essential step, his DCF analysis included individual growth rates that do not  
4 reflect investors' expectations. In the case of Mr. Baudino's DCF application,  
5 this resulted in results that are biased downward.

6 **Q47. Can you show the downward bias in Mr. Baudino's constant growth  
7 analysis?**

8 A47. Yes. For example, Mr. Baudino reports a Value Line EPS growth rate of 0.50%  
9 for Entergy Corp.<sup>65</sup> Combining this growth rate with its corresponding dividend  
10 yield of 4.20% results in a cost of equity estimate of 4.70%. Similarly, combining  
11 Otter Tail's Value Line EPS growth rate of 4.50% with its dividend yield of  
12 2.29% produces an ROE estimate of 6.79%. These implied costs of equity are  
13 less than any meaningful threshold. Indeed, even Mr. Baudino said he "omitted  
14 ROE results below 8.70% as being too conservative at this time."<sup>66</sup> Mr.  
15 Baudino's standard should have been applied to stand-alone DCF estimates, and  
16 these illogical outcomes should have been removed from Mr. Baudino's constant  
17 growth DCF analysis.

18 **Q48. Mr. Baudino's DCF "method 2" utilizes median growth rates to formulate  
19 DCF results.<sup>67</sup> Does a reference to the median improve his DCF analysis?**

20 A48. No. The median is simply the observation with an equal number of data values  
21 above and below. For odd-numbered samples, the median relies on only a single  
22 number, *e.g.*, the fifth number in a nine-number set. I believe that each ROE  
23 result represents a stand-alone estimate of investors' future expectations, and each  
24 value should be evaluated on its own merits. The median does not really consider

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<sup>65</sup> Exhibit RAB-3 at 1.

<sup>66</sup> Baudino Direct at 31.

<sup>67</sup> *Id.* at 20-21.

1 the results of analysis at all—it is simply a number that splits the distribution of  
2 observations into two equal halves. The fact that a median of several outcomes  
3 might produce a DCF estimate that could be considered reasonable does not  
4 absolve the need to evaluate each underlying return separately. Without  
5 considering the underlying data, and by including ROE estimates that do not  
6 reflect investor expectations, Mr. Baudino’s median approach biases his results  
7 downward.

8 **B. Capital Asset Pricing Model**

9 **Q49. How does Mr. Baudino apply the CAPM model?**

10 A49. Mr. Baudino uses a risk-free rate of 4.30% and an average proxy group beta value  
11 of 0.92, which he applies to one forward-looking market risk premium (“MRP”)  
12 and three historical MRPs, as well as two MRPs he selected from other sources.  
13 Mr. Baudino’s assortment of CAPM applications generate ROE estimates ranging  
14 from 8.72% to 13.90%.

15 **Q50. What is the primary flaw associated with Mr. Baudino’s three historical**  
16 **CAPM analyses?**<sup>68</sup>

17 A50. Mr. Baudino’s analysis of historical returns extending back to 1926 is backward-  
18 looking, whereas the CAPM is an *ex-ante*, or forward-looking model based on  
19 expectations of the future. As a result, to produce a meaningful estimate of  
20 investors’ required rate of return, the CAPM must be applied using data that  
21 reflect the expectations of actual investors in the market.

22 Mr. Baudino recognizes that, “Return on equity analysis is a forward-  
23 looking process,”<sup>69</sup> and he highlights the shortcomings of using historical MRPs,  
24 noting that, “It is surprising that the flaws in the approach have not drawn more

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<sup>68</sup> Exhibit RAB-4 at 2.

<sup>69</sup> Baudino Direct at 19.

1 attention.”<sup>70</sup> As one of Mr. Baudino’s own sources observed, “Since the 2008  
2 crisis, with its aftermath of low government bond rates and a simmering economic  
3 crisis, risk premiums in the United States have behaved differently than they have  
4 historically.”<sup>71</sup> Morningstar has also recognized the primacy of current  
5 expectations:

6 The cost of capital is always an expectational or forward-looking  
7 concept. While the past performance of an investment and other  
8 historical information can be good guides and are often used to  
9 estimate the required rate of return on capital, the expectations of  
10 future events are the only factors that actually determine cost of  
11 capital.<sup>72</sup>

12 And while the backward-looking approach used by Mr. Baudino  
13 incorrectly assumes that investors’ assessment of the relative risk differences, and  
14 their required risk premium, between Treasury bonds and common stocks is  
15 constant and equal to some historical average, FERC determined that CAPM  
16 methodologies based on historical data were suspect because whatever historical  
17 relationships existed between debt and equity securities may no longer hold.<sup>73</sup>  
18 Similarly, the Indiana Utility Regulatory Commission has previously concluded  
19 that:

20 Relying on historic market returns introduces some highly  
21 questionable assumptions, which must be taken on faith.  
22 Specifically [sic], one must assume that marketplace returns  
23 experienced historically are what investors were expecting to  
24 receive and continue to guide investor expectations today. It also  
25 assumes that asset relationships prevailing over the past 62 years  
26 continue today unchanged.<sup>74</sup>

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<sup>70</sup> *Id.* at 28, citing *Equity Risk Premiums (ERP): Determinants, Estimation, and Implications – The 2022 Edition, Updated: March 23, 2022*, Aswath Damodaran, Stern School of Business.

<sup>71</sup> Aswath Damodaran, *Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2023 Edition* (Updated: March 23, 2023) at 14.

<sup>72</sup> Morningstar, Ibbotson SBBI, *2013 Valuation Yearbook* at 21 (emphasis added).

<sup>73</sup> See *Orange & Rockland Utils., Inc.*, 40 FERC ¶ 63,053 at 65,208-09 (1987), *aff’d*, Opinion No. 314, 44 FERC ¶ 61,253 at 65,208 (2008).

<sup>74</sup> Indiana Utility Regulatory Commission, *Indiana Michigan Power Co.*, Cause No. 38728 (Aug. 24, 1990).

1 Mr. Baudino's historical CAPM approaches ignore the returns investors  
2 are currently requiring in the capital markets, and the resulting CAPM estimates  
3 fall short of investors' current required rate of return.

4 **Q51. Are there shortcomings with the Kroll and Damodaran sources cited by Mr.**  
5 **Baudino?**

6 A51. Yes. The Kroll publication relied on by Mr. Baudino does not provide any  
7 specific guidance as to the basis of this statistic, but prior reports have noted that  
8 it is based on a review of "academic studies and financial literature and various  
9 empirical studies."<sup>75</sup>

10 Meanwhile, the 4.82% MRP sourced Damodaran, which is nothing more  
11 than the best guess of a single finance professor at New York University, does not  
12 make economic sense and contradicts his own testimony. Combining an MRP of  
13 4.82% with Mr. Baudino's 4.42% risk-free rate results in an indicated cost of  
14 equity for the market as a whole of 9.24%. This return on the "market" is far  
15 below the preponderance of ROEs authorized for electric and gas utilities in  
16 recent history, and less than Mr. Baudino's 9.70% ROE recommendation for  
17 Kentucky Power in this case.

18 The theory underlying the CAPM holds that beta is the only relevant  
19 measure of investment risk and the market is assumed to have a beta of 1.0.  
20 Given that the average beta for the firms in Mr. Baudino's proxy group is 0.92,<sup>76</sup>  
21 this indicates that investors' required return on the market as a whole should  
22 exceed the cost of equity for electric utilities. It follows that a market rate of  
23 return that does not significantly exceed Mr. Baudino's own downward biased  
24 ROE recommendation has no relation to the current expectations of real-world

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<sup>75</sup> Duff & Phelps, *Duff & Phelps Decreases U.S. Equity Risk Premium Recommendation to 5.0%, Effective February 28, 2013*, Client Alert (Mar. 20, 2013).

<sup>76</sup> Exhibit RAB-4 at 3.

1 investors. The Damodaran MRP considered by Mr. Baudino violates the risk-  
2 return tradeoff that is fundamental to financial theory, and it illustrates the  
3 inability to rely on his CAPM results.

4 In addition, the approach Damodaran uses to derive a market risk premium  
5 assumes that the growth rate for all competitive firms will fall to a constant long-  
6 term rate after five years. In addition, Damodaran inexplicably assumes that this  
7 long term rate of growth will equal the current yield on U.S. Treasury bonds, or  
8 3.88% in its current rendition.<sup>77</sup> This is below even the 4.0% GDP growth  
9 forecast assumed by Mr. Baudino.<sup>78</sup> There is no logical link between investors'  
10 long-term growth expectations for common stocks and the Treasury bond yield,  
11 and I know of no credible source of investment guidance that is expecting growth  
12 for all companies in the economy to collapse to 3.88% over the next five years,

13 **Q52. Mr. Baudino suggests that a “major problem” with your CAPM analysis is**  
14 **your focus on the dividend paying firms in the S&P 500 as the basis for your**  
15 **MRP.<sup>79</sup> Is there any merit to his position?**

16 A52. No. As Mr. Baudino recognized,<sup>80</sup> under the constant growth form of the DCF  
17 model, investors' required rate of return is computed as the sum of the dividend  
18 yield over the coming year plus investors' long-term growth expectations.  
19 Because the dividend yield is a key component in applying the DCF model, its  
20 usefulness is hampered for firms that do not pay common dividends. As FERC  
21 has concluded:

22 The DCF analysis must be limited to the dividend-paying members  
23 of the S&P 500, rather than using all companies in the S&P 500,

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<sup>77</sup> Aswath Damodaran, *Equity Risk Premium (ERP): Determinants, Estimation and Implications – The 2023 Edition* (Updated: March 23, 2023) at 93.

<sup>78</sup> Baudino Direct at 37.

<sup>79</sup> *Id.* at 36.

<sup>80</sup> *Id.* at 14.

1 because a DCF analysis can only be performed on companies that  
2 pay common dividends.<sup>81</sup>

3 **Q53. What about Mr. Baudino’s contention that the projected growth rate**  
4 **supporting your MRP is “unsustainably high?”<sup>82</sup>**

5 A53. In my direct testimony, I estimated the current MRP by first applying the DCF  
6 model to estimate investors’ current required rate of return for the dividend-  
7 paying firms in the S&P 500 and then subtracting the yield on government bonds.  
8 Mr. Baudino contends that my CAPM analysis is flawed because the growth rate  
9 used in my MRP calculation “vastly exceeds . . . the historical capital appreciation  
10 for the S&P 500.”<sup>83</sup> Mr. Baudino’s reference to capital appreciation “for the  
11 historical period 1926 to 2022” is yet another attempt to look backward, which is  
12 at odds with the assumptions of the CAPM model. Investors’ expectations of  
13 growth for the market are not constrained by or limited to an assessment of  
14 historical data, as Mr. Baudino wrongly contends.

15 Similarly, Mr. Baudino’s assertion that long-term growth in GDP should  
16 serve as a ceiling for investors’ expectations is misguided. There are several  
17 reasons why GDP growth is not relevant in applying the DCF model:

- 18 • Practical application of the DCF model does not require a long-  
19 term growth estimate over a horizon of 25 years and beyond—  
20 it requires a growth estimate that matches investors’  
21 expectations.
- 22 • Evidence supports the conclusion that investors do not  
23 reference long-term GDP growth in evaluating expectations for  
24 individual common stocks, including those in the electric  
25 utility industry.
- 26 • The theoretical proposition that growth rates for all firms  
27 converge to overall growth in the economy over the very long

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<sup>81</sup> *Ass’n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569, 169 FERC ¶ 61,129 at P 260 (2020)(“Opinion No. 569”), *vacated & remanded sub nom. MISO Transmission Owners v. FERC*, No. 16-1325 (D.C. Cir. 2022).

<sup>82</sup> Baudino Direct at 36.

<sup>83</sup> *Id.* 36.



1 horizon does not guide investors' views, and growth rates for  
2 individual stocks can and do exceed GDP growth.

3 In short, there is no evidence that investors assume all firms will trend  
4 toward a long-term GDP growth rate in forming their expectations for common  
5 stocks.

6 **Q54. The DCF model assumes an infinite stream of cash flows. Why wouldn't a  
7 transition to GDP growth make sense?**

8 A54. This view confuses the theory underlying the DCF model with the practicalities of  
9 its application in the real world. While the notion of long-term growth should  
10 presumably relate to the specific firm at issue, or at the very least to a particular  
11 industry, there are no long-term growth projections available for the companies in  
12 the broader market. By applying the DCF model in a way that is inconsistent with  
13 the information that is available to investors and how they use it, the use of GDP  
14 growth places the theoretical assumptions of a financial model ahead of investor  
15 behavior. The only relevant growth rate is the growth rate used by investors.  
16 Investors do not have clarity to see far into the future, and there is little to no  
17 evidence to suggest that investors share the view that growth in GDP must be  
18 considered a limit on earnings growth over the long-term.

19 **Q55. Are long-term GDP growth rates commonly referenced as a direct guide to  
20 future expectations for specific firms?**

21 A55. No. Certainly, investors consider broad secular trends in economic activity as one  
22 foundation for their expectations for a particular industry or firm. But there is no  
23 evidence to support the idea that investment advisory services view GDP growth  
24 as a direct guide to long-term expectations for a particular firm—much less for  
25 every firm in an entire industry.

26 On the contrary, the financial media typically refers to three-to-five year  
27 EPS growth forecasts for individual companies and rarely mentions long-term

1 GDP forecasts. For example, Value Line reports are routinely relied on as a  
2 reliable source of investment data and analysis.<sup>84</sup> But despite Mr. Baudino’s  
3 suggestion that GDP has a fundamental role in shaping investors’ expectations,  
4 Value Line does not even mention trends in GDP in its evaluation growth rates for  
5 individual firms. Value Line’s purpose is to inform investors of the pertinent  
6 factors that could affect future expectations specific to each of the common stocks  
7 it covers. If the long-term trajectory of GDP growth was relevant in investors’  
8 evaluation of common stocks, Value Line and other securities analysts would  
9 highlight this in their analyses.

10 **Q56. How much confidence would investors give to long-term GDP projections?**

11 A56. Very little. There are well-understood complexities and inherent inaccuracies  
12 involved in forecasting, and such uncertainties are significantly compounded for a  
13 long-term time horizon. Consider the example of IHS Markit, which is perhaps  
14 the world’s foremost econometric forecasting service. IHS Markit publishes GDP  
15 projections for the U.S. economy for the next thirty years, but for other important  
16 economic variables (*e.g.*, bond yields), their forecast simply holds projected  
17 values constant after a seven-year horizon.

18 **Q57. Are there academic studies that recognize the shortcomings of adopting a  
19 generic long-term growth rate, such as GDP growth?**

20 A57. Yes. Professor Myron J. Gordon, who pioneered the application of the DCF  
21 approach, concluded that reference to a generic long-term growth rate, such as  
22 Mr. Baudino advocates, was unsupported.<sup>85</sup> More specifically, Dr. Gordon  
23 concluded that any assumption of a single time horizon for a transition to a

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<sup>84</sup> As noted in *New Regulatory Finance*, “Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors.” Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 71.

<sup>85</sup> Myron J. Gordon, *The Cost of Capital to a Public Utility*, MSU Public Utilities Studies (1974) at 100-01.

1 generic long-term growth rate was highly questionable and failed to reduce error  
2 in DCF estimates.

3 Instead, Dr. Gordon specifically recognized that, “it is the growth that  
4 investors expect that should be used” in applying the DCF model, and he  
5 concluded: “A number of considerations suggest that investors may, in fact, use  
6 earnings growth as a measure of expected future growth.”<sup>86</sup> Similarly, a  
7 subsequent paper co-authored by Professor Gordon concluded that:

8 Analysts do not predict earnings beyond five years, which suggests  
9 that any consensus of opinion among investors probably deteriorates  
10 quickly after five years.<sup>87</sup>

11 Dr. Gordon further concluded that “the consensus among investors is that  
12 the future has a finite horizon of approximately seven years.”<sup>88</sup> Meanwhile, a  
13 study reported in the *Journal of Investing* determined that there is no correlation  
14 between stock market returns or earnings growth and GDP, suggesting that  
15 investors’ expectations built into observable share prices are driven by valuation  
16 measures, and not expected economic growth.<sup>89</sup> In other words, reference to  
17 long-term forecasts of GDP growth in applying the DCF model is inconsistent  
18 with investor behavior.

19 **Q58. Has the forward-looking CAPM approach presented in your direct testimony  
20 been relied on by regulators and in the financial literature?**

21 A58. Yes. The original basis for my CAPM approach was the methods used by the  
22 Staff at the Illinois Commerce Commission, which adopted forward-looking

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<sup>86</sup> *Id.* at 89.

<sup>87</sup> Joseph R. Gordon and Myron T. Gordon, *The Finite Horizon Expected Return Model*, *Financial Analysts Journal* (May-Jun. 1997) at 52-61.

<sup>88</sup> *Id.*

<sup>89</sup> Joachim Klement, *What’s Growth Got to Do with It? Equity Returns and Economic Growth*, *Journal of Investing*, Vol. 24, No. 2 (Summer 2015): 74:78.

1 market rate of return estimates to apply the CAPM. For example, one staff  
2 witness described an approach analogous to that used in my direct testimony.

3 Q. How was the expected rate of return on the market portfolio  
4 estimated?

5 A. The expected rate of return on the market was estimated by  
6 conducting a DCF analysis on the firms composing the S&P  
7 500 Index ('S&P 500'). ... Firms not paying a dividend as of  
8 July 1, 2010, or for which neither Zacks nor Reuters growth  
9 rates were available were eliminated from the analysis. The  
10 resulting company-specific estimates of the expected rate of  
11 return on common equity were then weighted using market  
12 value data from Zacks on July 2, 2010. The estimated weighted  
13 averaged expected rate of return for the remaining 367 firms  
14 composing 80.21% of the market capitalization of the S&P  
15 500, equals 12.74 percent.<sup>90</sup>

16 FERC has also adopted a forward-looking CAPM approach directly  
17 comparable to the methodology applied in my direct testimony.<sup>91</sup>

18 Similarly, research reported in the financial literature has used the DCF  
19 approach based on analysts' EPS growth rates to estimate a forward-looking rate  
20 of return for the S&P 500. For instance, *Harris and Marston* notes that "a  
21 'market' required rate of return is calculated using each dividend paying stock in  
22 the S&P 500 index for which data are available."<sup>92</sup> In describing this process, the  
23 authors state:

24 This expectational approach employs the dividend growth model  
25 (hereafter referred to as the discounted cash flow or DCF model) in  
26 which a consensus measure of financial analysts' forecasts (FAF)  
27 of earnings is used as a proxy for investor expectations.

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<sup>90</sup> *Direct Testimony of Michael McNally*, Illinois Commerce Commission, Docket No. 10-0467, filed October 26, 2010, at 27-29. The Illinois Commerce Commission relied on this CAPM approach in arriving at the authorized ROE in this proceeding. Illinois Commerce Commission, Docket No. 10-0467, Order (May 24, 2011) at 153.

<sup>91</sup> *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569-A, 171 FERC ¶ 61,154 at P 260 (2020) ("Opinion No. 569-A"), *vacated & remanded sub nom. MISO Transmission Owners v. FERC*, No. 16-1325 (D.C. Cir. 2022).

<sup>92</sup> Robert S. Harris and Felicia C. Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Fin. Mgmt. (Summer 1992) ("*Harris and Marston*").

1 \* \* \*

2 For each month, a “market” required rate of return is calculated  
3 using each dividend paying stock in the S&P 500 index for which  
4 data are available. The DCF model in Equation (2) is applied to  
5 each stock and the results weighted by market value of equity to  
6 produce the market required return.<sup>93</sup>

7 Estimating investors’ required rate of return by reference to current, forward-  
8 looking data, as I have done, is consistent with the theory underlying the CAPM  
9 methodology, peer-reviewed financial literature, and the practice of regulators.

10 **Q59. Mr. Baudino presents a quote from Pratt and Grabowski regarding growth**  
11 **rates.<sup>94</sup> Does this quote call into question the 9.5% growth rate underlying**  
12 **your MRP?**

13 A59. No. The quotation presented by Mr. Baudino considers the effects of “a growth  
14 rate of 20% compounded annually” into perpetuity, and highlights an obvious fact  
15 that no company can grow forever at a rate greater than the economy. True  
16 enough, companies cannot grow forever, just as trees do not grow to the  
17 stratosphere. But this broad axiom does not justify the artificial growth rate  
18 ceiling suggested by Mr. Baudino.

19 Just as companies do not grow forever, investors do not hold stocks  
20 forever and cannot see into the far distant future. In fact, investors realize that  
21 projections become increasingly tenuous as the forecast horizon expands. To  
22 estimate the growth rate investors must have had in mind when they agreed to  
23 purchase a common stock, we must look to information that investors use to make  
24 their decisions. The only relevant growth rate in applying the DCF model is what  
25 investors assumed when they purchased the stock at the prevailing market price.

26 To the extent that professional security analysts feel that trends in GDP  
27 affect a company’s growth expectations in the time frame relevant to investors, it

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<sup>93</sup> *Id.*

<sup>94</sup> Baudino Direct at 37.

1 is already incorporated into their published EPS growth forecasts. In addition,  
2 companies differ in the degree to which growth is impacted by the national  
3 economy. These inherent differences are obviously reflected in security analysts'  
4 growth projections for individual companies, which are indicative of the  
5 expectations that underlie stock prices. Growth estimates within the DCF  
6 framework can and do exceed long-term GDP, within Mr. Baudino's DCF  
7 application as well as my own.<sup>95</sup>

8 **Q60. Does the finance textbook cited by Mr. Baudino confirm the reasonableness**  
9 **of the 7.8% risk premium used in your CAPM and ECAPM analyses?**

10 A60. Yes. As Mr. Baudino explains:

11 Finally, I note that in the authoritative corporate finance textbook  
12 by Brealey, Myers, Allen and Edmans, the authors stated: "We  
13 have no official position on the issue, but we believe that a range  
14 of 5 to 8 percent is reasonable for the risk premium in the United  
15 States."<sup>96</sup>

16 Obviously, my 7.8% MRP is within the range this reference source considers  
17 reasonable. On the other hand, the 4.82% MRP from Damodaran that Mr.  
18 Baudino relied on falls outside this range.

19 **Q61. Do the arguments advanced by Mr. Baudino undermine the need for a size**  
20 **adjustment as part of the CAPM and ECAPM analyses?**

21 A61. No. A size adjustment is necessary to account for the portion of the return to  
22 small stocks that is not accounted for by beta. As discussed in my direct  
23 testimony, empirical findings demonstrate that beta does not fully account for the  
24 higher returns of smaller companies and specific size adjustments have been  
25 quantified to adjust CAPM results to account for this size premium.<sup>97</sup> Mr.

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<sup>95</sup> Thirty-four of the forty-five individual earnings growth rates that Mr. Baudino relies on in his own DCF analysis exceed his assumed 4.0% long run GDP growth figure. Exhibit RAB-3 at 1.

<sup>96</sup> Baudino Direct at 38, quoting Richard A. Brealey, Stewart C. Myers, Franklin Allen and Alex Edmans, *Principles of Corporate Finance*, page 189; McGraw-Hill/Irwin, 14th Edition, 2023.

<sup>97</sup> McKenzie Direct at 48-49.

1 Baudino simply observes that the average beta associated with lower size deciles  
2 is greater than the average of his proxy group.<sup>98</sup> While I do not dispute the  
3 observation, it has no relevance whatsoever to the implications of Kroll’s findings  
4 regarding the impact of firm size. The fact that the average beta for smaller size  
5 deciles is greater than 1.00 says nothing about the range of individual beta values  
6 underlying this average.

7 Moreover, the size premiums are beta adjusted, meaning that the risk  
8 impact of beta values (whether higher or lower than Mr. Baudino’s proxy group  
9 average) have been removed. While the size premiums reported by Kroll were  
10 not estimated on an industry-by-industry basis, this provides no basis to ignore  
11 this relationship in estimating the cost of equity for utilities. Utilities are included  
12 in the companies used by Kroll to quantify the size premium, and firm size has  
13 important practical implications with respect to the risks faced by investors in the  
14 utility industry. As Kroll (formerly Duff & Phelps) concluded:

15 Despite many criticisms of the size effect, it continues to be  
16 observed in data sources. Further, observation of the size effect is  
17 consistent with a modification of the pure CAPM. Studies have  
18 shown the limitations of beta as a sole measure of risk. The size  
19 premium is an empirically derived correction to the pure CAPM.<sup>99</sup>

20 **Q62. Mr. Baudino argues that a CAPM/ECAPM size adjustment does not apply**  
21 **because regulated companies “on average are quite different from the group**  
22 **of companies included in the Kroll research on size premiums.”<sup>100</sup> Is this a**  
23 **valid criticism?**

24 A62. No. There is no credible basis to conclude that CAPM or ECAPM estimates for  
25 utilities are immune from the well-documented relationship between smaller size  
26 and higher realized rates of return. The size adjustment required in applying the

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<sup>98</sup> Baudino Direct at 39.

<sup>99</sup> Duff & Phelps, *2016 Valuation Handbook, Guide to Cost of Capital*, John Wiley & Sons (2016) at 4-27.

<sup>100</sup> Baudino Direct at 39.

1 CAPM and ECAPM is based on the finding that *after controlling for risk*  
2 *differences reflected in beta*, the CAPM overstates returns to companies with  
3 larger market capitalizations and understates returns for relatively smaller firms.  
4 Of course, there are any number of specific factors that distinguish a utility’s risks  
5 from other firms in the non-regulated sector, just as there are important  
6 distinctions between the circumstances faced by airlines and drug manufacturers.  
7 But under the assumptions of modern capital market theory on which the CAPM  
8 rests, these considerations are reduced to a single risk measure—beta—which  
9 captures stock price volatility relative to the market.

10 Within the CAPM paradigm, the degree of regulation, the nature of  
11 competition in the industry, the competence of management, and every other  
12 firm-specific consideration is boiled down to a single question; namely, how  
13 much does the stock’s price fluctuate in relation to the market as a whole? Beta is  
14 the measure of that variability, and research demonstrates that beta does not fully  
15 account for the impact of firm size. Duff & Phelps, which formerly published the  
16 Kroll data relied on by Mr. Baudino, concluded that:

17 Examination of market evidence shows that within the context of the  
18 CAPM, beta does not fully explain the difference between small  
19 company returns and large company returns. In other words, the  
20 *actual* (historical) excess return smaller companies earn tends to be  
21 greater than the excess return *predicted* by the CAPM for these  
22 companies. This ‘premium over CAPM’ is commonly known as a  
23 ‘beta-adjusted size premium’ or simply “size premium.”<sup>101</sup>

24 Contradicting the incorrect inference Mr. Baudino draws regarding the  
25 relative risk of utilities, formerly Duff & Phelps notes that the published size  
26 premia “have been adjusted to remove the portion of excess return that is

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<sup>101</sup> Duff & Phelps, *2016 Valuation Handbook, Guide to Cost of Capital*, John Wiley & Sons (2016) at 8-1. Duff & Phelps now publishes the study of historical returns formerly compiled by Morningstar, and previously published by Ibbotson Associates.



1           attributable to beta, leaving only the size effect’s contribution to excess return.”<sup>102</sup>  
2           In other words, the impact of risk differences between utilities and non-regulated  
3           firms is already accounted for and there is no justification to remove the size  
4           adjustment on this basis. Confirming these findings, *New Regulatory Finance*  
5           observed that “small market-cap stocks experience higher returns than large  
6           market-cap stocks with equivalent betas,” and concluded that “the CAPM  
7           understates the risk of smaller utilities, and a cost of equity based purely on a  
8           CAPM beta will therefore produce too low an estimate.”<sup>103</sup>

9           **Q63. Mr. Baudino contends that the Commission has rejected the size adjustment**  
10           **in the past.<sup>104</sup> What is your response?**

11          A63. Mr. Baudino’s allegation is incorrect and potentially misleading. Specifically, he  
12          cites the Commission’s April 2023 decision in Case No. 2022-00147, which  
13          rejected an upward adjustment of 100 basis points to recognize the risk associated  
14          with a small water utility.<sup>105</sup> Meanwhile, the size adjustment referenced in my  
15          testimony has nothing to do with Kentucky Power and it is not premised on the  
16          Company’s relative size or risks. Rather, it serves only to correct CAPM cost of  
17          equity estimates for empirical findings demonstrating that beta does not fully  
18          consider risks that are related to firm size. I am not proposing to apply a  
19          company-specific size premium to arrive at a fair ROE for Kentucky Power, and  
20          the proposed ROE adder for a water utility with less than 7,000 customers is  
21          unrelated to the size adjustment in my application of the CAPM.

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<sup>102</sup> Duff & Phelps, *2017 Valuation Handbook, U.S. Guide to Cost of Capital*, John Wiley & Sons (2017) at 2-10.

<sup>103</sup> Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 187.

<sup>104</sup> Baudino Direct at 39.

<sup>105</sup> Case No. 2022-00147, Order (Apr. 12, 2023) at 40, 48.

1 **Q64. Have other regulators recognized that the size adjustment is necessary when**  
2 **applying the CAPM?**

3 A64. Yes. FERC has observed that “[t]his type of size adjustment is a generally  
4 accepted approach to CAPM analyses,”<sup>106</sup> and includes the size adjustment in the  
5 CAPM under its ROE methodology for electric utilities and natural gas and oil  
6 pipelines.<sup>107</sup> Contradicting Mr. Baudino’s position on this issue, FERC concluded  
7 that, “[We] disagreed with intervenors that the utility industry is unique, and that  
8 the size premium adjustment would therefore be inapplicable, as the size premium  
9 adjustments are supported by a robust data set.”<sup>108</sup> More recently, FERC affirmed  
10 its practice of including a size adjustment, concluding that “the size adjustment is  
11 necessary to correct for the CAPM’s inability to fully account for the impact of  
12 firm size when determining the cost of equity.”<sup>109</sup>

13 **Q65. Mr. Baudino concludes that his CAPM analyses imply a reasonable range of**  
14 **8.72% to 10.00%.<sup>110</sup> Is that a fair assessment of his results?**

15 A65. No. The 8.72% low end of Mr. Baudino’s CAPM analysis is based on data that  
16 his own source considers unreasonable, and it is a scant 2 basis points above the  
17 8.70% threshold Mr. Baudino used to eliminate values that are “too conservative  
18 at this time.”<sup>111</sup> Meanwhile, three of the remaining five CAPM values presented  
19 by Mr. Baudino exceed the 10.00% upper end of his suggested range.  
20 Eliminating the lowest and highest of Mr. Baudino’s CAPM values results in a  
21 range of 9.22% to 10.81%, with a midpoint of 10.02%. This result should be

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<sup>106</sup> *Coakley v. Bangor-Hydro-Elec. Co.*, Opinion No. 531-B, 150 FERC ¶ 61,165 at P 117 (2015) (“Opinion No. 531-B”), *vacated & remanded sub nom. Emera Me. v. FERC*, 854 F.3d 9 (D.C. Cir. 2017).

<sup>107</sup> Opinion No. 569-A; *Policy Statement on Determining Return on Equity for Natural Gas and Oil Pipelines*, 171 FERC ¶ 61,155 (2020).

<sup>108</sup> *Ass’n of Bus. Advocating Tariff Equity, et al.*, Opinion No. 569-A, 171 FERC ¶ 61,154 at P 63 (2020).

<sup>109</sup> *Ass’n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569-B, 173 FERC ¶ 61,159 at P 100 (2020) (“Opinion No. 569-B”), *vacated & remanded sub nom. MISO Transmission Owners v. FERC*, No. 16-1325 (D.C. Cir. 2022).

<sup>110</sup> Baudino Direct at 3.

<sup>111</sup> *Id.* at 31.

1 increased by 44 basis points to account for the size adjustment corresponding to  
2 Mr. Baudino's proxy group.

3 **C. Other ROE Issues**

4 **Q66. Mr. Baudino argues your DCF analysis is flawed because you “applied a test**  
5 **for excluding ROE results that ... were too low but also included ROE results**  
6 **that are very high.”<sup>112</sup> Is this a valid argument?**

7 A66. No. I evaluate low-end outliers against the observable returns available from  
8 long-term bonds. But the fact that there are numerous results that fail this test of  
9 reasonableness says nothing about the validity of estimates at the upper end of the  
10 range of results, and there is no basis to discard a corresponding number of values  
11 from the top of the range. While upper end cost of equity estimates on the order  
12 of 11.3% to 12.6% from my Exhibit AMM-5, page 3 may exceed expectations for  
13 most utilities, the remaining low-end estimates in the 7.4% to 7.6% range are  
14 assuredly far below investors' required rate of return, and significantly below the  
15 8.70% cutoff that Mr. Baudino used to omit ROE results that were “too  
16 conservative.”<sup>113</sup> Taken together and considered along with the balance of the  
17 DCF estimates, these values provide a reasonable basis on which to evaluate  
18 investors' required rate of return, and Joint Intervenors' witness. Comings  
19 adopted the same approach.<sup>114</sup> Mr. Baudino's suggestion that I retained DCF  
20 ROEs that were “too high”<sup>115</sup> is unjustified.

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<sup>112</sup> *Id.* at 33.

<sup>113</sup> *Id.* at 31.

<sup>114</sup> Comings Direct at 21.

<sup>115</sup> Baudino Direct at 33-34.

1 **Q67. Mr. Baudino claims that you excluded most of your DCF results from your**  
2 **recommended range, and this biased your recommendation upward.<sup>116</sup> Is**  
3 **this a fair assessment?**

4 A67. No. As indicated in my direct testimony, in arriving at my recommended range of  
5 reasonableness I gave less weight to values at the low and high ends of the range  
6 of results. The low end of my recommended range is bracketed by the average of  
7 the DCF results and the risk premium study, while the upper end falls below the  
8 CAPM, ECAPM, and expected earnings results. There is no upward bias.

9 **Q68. Does Mr. Baudino advance any credible criticism of the risk premium**  
10 **approach?**

11 A68. No. Mr. Baudino's only general observation is that the risk premium method is  
12 "imprecise."<sup>117</sup> Of course, this observation applies equally to every model of  
13 investor behavior that is used to estimate required returns, including the DCF  
14 approach that formed the foundation of Mr. Baudino's recommendation. The  
15 DCF method is only one theoretical approach to gain insight into the return  
16 investors require, which is unobservable. The DCF model boils this  
17 determination down to the familiar dividend yield and growth rate components,  
18 masking the underlying complexities that accompany any attempt to distill every  
19 facet of investors' expectations into a single growth estimate. Mr. Baudino's  
20 claim that the DCF is "far more reliable and accurate"<sup>118</sup> is unsubstantiated. As I  
21 explained earlier, while the DCF model is a recognized approach to estimating the  
22 cost of equity, it is not without shortcomings and does not otherwise eliminate the  
23 need to examine the results of other methods.

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<sup>116</sup> *Id.* at 34-35.

<sup>117</sup> *Id.* at 39.

<sup>118</sup> *Id.* at 40.

1           In the recognized treatise, *Principles of Public Utility Rates*, Bonbright  
2 noted that “[t]he risk premium approach is probably the second most popular  
3 approach to estimating the cost of equity.”<sup>119</sup> Similarly, the risk premium  
4 approach is cited as one of the preeminent cost of capital methodologies by the  
5 primary reference text prepared for the Society of Utility and Regulatory  
6 Financial Analysts,<sup>120</sup> as well as by *New Regulatory Finance*.<sup>121</sup> This method is  
7 routinely referenced by the investment community, by academics, and in  
8 regulatory proceedings, and provides an important tool in estimating a fair ROE.

9 **Q69. Mr. Baudino claims that a risk premium approach “can only provide very  
10 general guidance” because “Risk premiums can change substantially over  
11 time.”<sup>122</sup> Is this a valid criticism of your analysis?**

12 A69. No. As I discuss and demonstrate in my direct testimony,<sup>123</sup> my risk premium  
13 model controls for the well documented inverse relationship between the utility  
14 risk premium and interest rates. In fact, Mr. Baudino later uses this empirical  
15 relationship in order to estimate an ROE for 2022.<sup>124</sup> Mr. Baudino’s warning  
16 against the use of a risk premium model is without merit.

17           Moreover, absence of change is not a sound criteria to judge the ability of  
18 any financial model to account for investors’ expectations and requirements.  
19 Financial markets and stock valuations are in constant flux as investors respond to  
20 new information. In fact, Mr. Baudino felt compelled to select an ROE from the  
21 upper end of his range, in part to recognize that interest rates and DCF dividend

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<sup>119</sup> James C. Bonbright, Albert L. Danielsen, and David R. Kamerschen, *Principles of Public Utility Rates*, Pub. Utils. Reports, Inc. (1988) at 322.

<sup>120</sup> David C. Parcell, *The Cost of Capital – A Practitioner’s Guide*, Society of Utility and Regulatory Financial Analysts (2010) at 164.

<sup>121</sup> Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 28, 107-130. Opinion No. 569 cited Professor Eugene Brigham, who also recognized that the Risk Premium method is typically used when estimating a company’s cost of equity. Opinion No. 569 at P 218.

<sup>122</sup> Baudino Direct at 40.

<sup>123</sup> McKenzie Direct at 54-55 and Exhibit AMM-9.

<sup>124</sup> Baudino Direct at 40-41 and Table 3.

1 yields are increasing. Contradicting Mr. Baudino’s unsupported view that the  
2 DCF method yields “far more reliable and accurate results,” the Indiana Utility  
3 Regulatory Commission noted that:

4           There are three principal reasons for our unwillingness to place a  
5           great deal of weight on the results of any DCF analysis. One is . . .  
6           the failure of the DCF model to conform to reality. The second is  
7           the undeniable fact that rarely if ever do two expert witnesses agree  
8           on the terms of a DCF equation for the same utility – for example, as  
9           we shall see in more detail below, projections of future dividend  
10          cash flow and anticipated price appreciation of the stock can vary  
11          widely. And, the third reason is that the unadjusted DCF result is  
12          almost always well below what any informed financial analysis  
13          would regard as defensible, and therefore require an upward  
14          adjustment based largely on the expert witness’s judgment. In these  
15          circumstances, we find it difficult to regard the results of a DCF  
16          computation as any more than suggestive.<sup>125</sup>

17 **Q70. Mr. Baudino suggests that your risk premium approach is “highly**  
18 **inaccurate” because it fails to duplicate the actual average authorized ROE**  
19 **in a single year.<sup>126</sup> Does his argument make sense?**

20 A70. No. The only thing that Mr. Baudino’s example illustrates is the fundamental  
21 nature of any linear regression equation, which seeks to minimize the distance  
22 between the predictive equation and the underlying data. Some predicted values  
23 will be above the individual data points, while others will fall below. On average  
24 though, the predicted values will be equal to the observed data. This is illustrated  
25 in the table below, which compares the predicted ROEs to the average authorized  
26 ROEs in each year over my risk premium study period.

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<sup>125</sup> *Ind. Michigan Power Co.*, Cause No. 38728, 116 PUR4th, 1, 17-18 (IURC 8/24/1990).

<sup>126</sup> Baudino Direct at 40-41 and Table 3.

**TABLE AMM-R6  
ALLOWED ROE V. PREDICTED**

| <b>Year</b> | <b>Allowed ROE</b> | <b>Predicted ROE</b> | <b>Difference</b> | <b>Year</b>    | <b>Allowed ROE</b> | <b>Predicted ROE</b> | <b>Difference</b> |
|-------------|--------------------|----------------------|-------------------|----------------|--------------------|----------------------|-------------------|
| 1974        | 13.10%             | 12.54%               | -0.56%            | 1999           | 10.72%             | 11.56%               | 0.84%             |
| 1975        | 13.20%             | 12.89%               | -0.31%            | 2000           | 11.58%             | 11.87%               | 0.29%             |
| 1976        | 13.10%             | 12.49%               | -0.61%            | 2001           | 11.07%             | 11.66%               | 0.59%             |
| 1977        | 13.30%             | 12.15%               | -1.15%            | 2002           | 11.21%             | 11.55%               | 0.34%             |
| 1978        | 13.20%             | 12.51%               | -0.69%            | 2003           | 10.96%             | 11.02%               | 0.06%             |
| 1979        | 13.50%             | 13.18%               | -0.32%            | 2004           | 10.81%             | 10.78%               | -0.03%            |
| 1980        | 14.23%             | 14.77%               | 0.54%             | 2005           | 10.51%             | 10.48%               | -0.03%            |
| 1981        | 15.22%             | 16.18%               | 0.96%             | 2006           | 10.34%             | 10.72%               | 0.38%             |
| 1982        | 15.78%             | 16.01%               | 0.23%             | 2007           | 10.32%             | 10.73%               | 0.41%             |
| 1983        | 15.36%             | 14.86%               | -0.50%            | 2008           | 10.37%             | 11.04%               | 0.67%             |
| 1984        | 15.32%             | 15.27%               | -0.05%            | 2009           | 10.52%             | 10.83%               | 0.31%             |
| 1985        | 15.20%             | 14.27%               | -0.93%            | 2010           | 10.29%             | 10.42%               | 0.13%             |
| 1986        | 13.93%             | 12.65%               | -1.28%            | 2011           | 10.19%             | 10.17%               | -0.02%            |
| 1987        | 12.99%             | 12.95%               | -0.04%            | 2012           | 10.02%             | 9.67%                | -0.35%            |
| 1988        | 12.79%             | 13.22%               | 0.43%             | 2013           | 9.82%              | 9.84%                | 0.02%             |
| 1989        | 12.97%             | 12.77%               | -0.20%            | 2014           | 9.76%              | 9.76%                | 0.00%             |
| 1990        | 12.70%             | 12.82%               | 0.12%             | 2015           | 9.60%              | 9.74%                | 0.14%             |
| 1991        | 12.54%             | 12.51%               | -0.03%            | 2016           | 9.60%              | 9.59%                | -0.01%            |
| 1992        | 12.09%             | 12.14%               | 0.05%             | 2017           | 9.68%              | 9.56%                | -0.12%            |
| 1993        | 11.46%             | 11.56%               | 0.10%             | 2018           | 9.56%              | 9.72%                | 0.16%             |
| 1994        | 11.21%             | 11.99%               | 0.78%             | 2019           | 9.65%              | 9.44%                | -0.21%            |
| 1995        | 11.58%             | 11.76%               | 0.18%             | 2020           | 9.39%              | 8.99%                | -0.40%            |
| 1996        | 11.40%             | 11.67%               | 0.27%             | 2021           | 9.39%              | 9.03%                | -0.36%            |
| 1997        | 11.33%             | 11.60%               | 0.27%             | 2022           | <u>9.52%</u>       | <u>9.96%</u>         | <u>0.44%</u>      |
| 1998        | 11.77%             | 11.24%               | -0.53%            | <b>Average</b> | <b>11.72%</b>      | <b>11.72%</b>        | <b>0.00%</b>      |

1                   As shown above, in some years (*e.g.*, the 2022 value singled out by Mr.  
2                   Baudino), the predicted ROE exceeds the actual average, while in others (*e.g.*,  
3                   2019-2021) the predicted value falls below the average authorized ROE. What  
4                   Mr. Baudino is effectively telling this Commission is that regression analysis has  
5                   no value as a predictive tool because it does not replicate each observation with  
6                   perfect accuracy. Mr. Baudino has not cited any textbook, treatise or published  
7                   literature to support his misguided interpretation of linear regression and the  
8                   Commission should reject this nonsensical argument.

1 **Q71. Mr. Baudino argues that your risk premium analysis “assumes that investor**  
2 **required ROEs are deterministically based on average commission-allowed**  
3 **ROEs and the risk premium relationship posited by Mr. McKenzie’s**  
4 **regression analysis.”<sup>127</sup> Is this accurate?**

5 A71. No. Mr. Baudino implies that the risk premium method is based on the  
6 assumption that interest rates are the only factors affecting investors’ expected  
7 return requirements. This is not accurate. Under the assumptions of the risk  
8 premium method, investors’ return requirements, and the multitude of factors that  
9 affect them, are captured in the allowed ROEs that form the basis of the  
10 underlying risk premiums. Meanwhile, the purpose of the regression analysis is  
11 to adjust these risk premiums to reflect the implications of prevailing capital  
12 market conditions contemporaneous with the analysis.

13 In other words, the risk premium is influenced as well by the cost of  
14 equity and the regression analysis is designed to discover systematic movements  
15 in the risk premium, which is a widely recognized parameter in finance.  
16 Moreover, there are no statistical infirmities associated with the inverse  
17 relationship documented in this analyses, as indicated by the R-squared value and  
18 other measures of goodness of fit.<sup>128</sup>

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<sup>127</sup> Baudino Direct at 40.

<sup>128</sup> The R-squared associated with the regression was 0.89, indicating that 89% of variation in equity risks premiums is explained by changes in bond yields, and the regression coefficient is highly significant, with a t-Statistic of -19.17.



1 **Q72. Mr. Baudino claims, “The ECAPM adjustment also suggests that published**  
2 **betas by such sources as Value Line are incorrect and that investors should**  
3 **not rely on them.”<sup>129</sup> Is that a fair characterization of your ECAPM**  
4 **analysis?**

5 A72. No. As I explain in my direct testimony,<sup>130</sup> the ECAPM model accounts for a  
6 documented empirical result whereby low beta stocks tend to earn higher returns  
7 than the traditional CAPM would predict, and high beta stocks tend to earn a  
8 lower return. Value Line is recognized as being the most widely available source  
9 of investment information to investors, and there are many citations to textbooks  
10 and other sources supporting its usefulness as a guide to investors’  
11 expectations.<sup>131</sup> The refinement of the ECAPM does not contradict this fact or  
12 otherwise undermine the relevance of Value Line betas.

13 **Q73. AG-KIUC characterizes your expected earnings approach as “highly**  
14 **speculative.”<sup>132</sup> How do you respond?**

15 A73. Mr. Baudino’s criticism appears to be centered around his claim that, “Using  
16 Value Line’s projected returns for a time period several years into the future is  
17 highly speculative.”<sup>133</sup> Considering that Mr. Baudino relies on Value Line  
18 projections over the same time horizon for two of the four growth measures  
19 incorporated in his DCF study, his criticism is perplexing at best. Mr. Baudino’s  
20 suggestion that GDP growth projections out to the year 2033 might provide a  
21 reliable limit on investors’ growth expectations, while Value Line’s 3-5 year  
22 forecasts should be regarding as “speculative,” only reinforces the internal  
23 contradictions in his testimony.

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<sup>129</sup> Baudino Direct at 35.

<sup>130</sup> McKenzie Direct at 49-51.

<sup>131</sup> See, e.g., Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 71 (“Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors.”).

<sup>132</sup> Baudino direct at 42.

<sup>133</sup> *Id.* at 41-42.

1 **Q74. Mr. Baudino contends that the adjustment incorporated into your expected**  
2 **earnings analysis is “unnecessary and incorrect.”<sup>134</sup> Why have you included**  
3 **the adjustment factor?**

4 A74. The adjustment factor incorporated in applying the expected earnings approach is  
5 required because Value Line’s reported returns are based on end-of-year book  
6 values. Since earnings is a flow over the year while book value is determined at a  
7 given point in time, the measurement of earnings and book value are distinct  
8 concepts. It is this fundamental difference between a flow (earnings) and point  
9 estimate (book value) that makes it necessary to adjust to mid-year in calculating  
10 the ROE. Given that book value will increase or decrease over the year, using  
11 year-end book value (as Value Line does) understates or overstates the average  
12 investment that corresponds to the flow of earnings. To address this concern,  
13 earnings must be matched with a corresponding representative measure of book  
14 value, or the resulting ROE will be distorted.

15 The need for this adjustment has been recognized in the financial  
16 literature.<sup>135</sup> Similarly, FERC has also cited the necessity to adjust year-end data  
17 from Value Line to reflect average values when computing earned rates of  
18 return,<sup>136</sup> and accepted the exact same adjustment formula I used to apply the  
19 expected earnings approach

20 **Q75. How do you respond to Mr. Baudino’s discussion of your non-utility**  
21 **analysis?**

22 A75. Mr. Baudino makes the statement that utilities “have protected markets, e.g.  
23 service territories, and may increase the prices they charge in the face of falling  
24 demand or loss of customers.”<sup>137</sup> Based on this, Mr. Baudino summarily

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<sup>134</sup> *Id.* at 42.

<sup>135</sup> Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 305-06.

<sup>136</sup> *See, e.g., Bangor Hydro-Elec. Co.*, 122 FERC ¶ 61,265 at P 18 (2008).

<sup>137</sup> Baudino Direct at 43.

1 concludes, “Obviously, the non-utility companies face risks that a lower risk  
2 electric company like KPC does not face.”<sup>138</sup> In fact, however, investors are quite  
3 aware that utilities are not guaranteed recovery of reasonable and necessary costs  
4 incurred to provide service and that there are many instances in which utilities are  
5 unable to increase rates to fully recoup reasonable and necessary costs, resulting  
6 in an inability to earn the allowed ROE—and potentially even bankruptcy. The  
7 simple observation that a firm operates in non-utility businesses says nothing at  
8 all about the overall investment risks perceived by investors, which is the very  
9 basis for a fair rate of return.

10 The cost of capital is an opportunity cost based on the returns that  
11 investors could realize by putting their money in other alternatives, which include  
12 all other securities available in the stock, bond, or money markets. Consistent  
13 with this view, Mr. Baudino notes the Supreme Court’s economic standards and  
14 concluded that the fair rate of return on equity should be “comparable to the  
15 returns of other firms with similar risk structures.”<sup>139</sup> The total capital invested in  
16 utility stocks is only the tip of the iceberg of total common stock investment and  
17 there are many other “investments of comparable risk” available to investors  
18 beyond those in the utility industry.

19 It is true that utilities are largely sheltered from competition, but they  
20 undertake other obligations and lose the ability to set their own prices and decide  
21 when to exit a market. The Supreme Court has recognized that it is the degree of  
22 risk, not the nature of the business, which is relevant in evaluating an allowed  
23 ROE for a utility.<sup>140</sup>

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<sup>138</sup> *Id.* at 43.

<sup>139</sup> *Id.* at 4.

<sup>140</sup> *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

1 **Q76. Does Mr. Baudino’s proxy group discussion implicitly allow the inclusion of**  
2 **non-utility companies?**

3 A76. Yes. In describing his proxy group selection, Mr. Baudino states that “My first  
4 step was to construct a proxy group of companies with a risk profile that is  
5 reasonably similar to KPC.”<sup>141</sup> He goes on to confirm that, “It is necessary to use  
6 a group of companies that are similarly situated and have reasonably similar risk  
7 profiles to KPC.”<sup>142</sup> These statements are revelatory insofar as they confirm Mr.  
8 Baudino’s understanding that risk is the most relevant factor in ROE analysis, and  
9 not the nature of a company’s business or industry.

10 **Q77. Does objective evidence support Mr. Baudino’s inference that non-utility**  
11 **companies are obviously riskier than utilities?**

12 A77. No. Investors rely on objective evidence such as credit ratings and beta values to  
13 make accurate inferences about risk. The average S&P and Moody’s credit  
14 ratings for the Non-Utility Group referenced in my direct testimony are higher  
15 than for the Utility Group or the Company. The average beta value for the Non-  
16 Utility Group is 0.80 as compared to 0.89 for the Utility Group and 0.75 for  
17 Kentucky Power’s parent company, AEP. This assessment is confirmed by the  
18 review of financial strength values and other objective indicators of investment  
19 risk presented in Table 7 in my direct testimony,<sup>143</sup> which consider the impact of  
20 competition and market share and demonstrated that, if anything, the Non-Utility  
21 Group could be considered less risky in the minds of investors than the common  
22 stocks of the proxy group of utilities.

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<sup>141</sup> Baudino Direct at 15.

<sup>142</sup> *Id.* at 15.

<sup>143</sup> McKenzie Direct at 66.

1 **Q78. Mr. Baudino says that an adjustment to account for flotation costs is not**  
2 **necessary since “flotation costs are already accounted for in current stock**  
3 **prices.”<sup>144</sup> Is this a valid assumption?**

4 A78. No. As discussed at length in my direct testimony,<sup>145</sup> flotation cost adjustments  
5 are supported by recognized regulatory textbooks and based on research reported  
6 in the academic literature, and the fact that investors are aware of issuance costs  
7 provides no basis to ignore a flotation cost adjustment. *New Regulatory Finance*  
8 dismisses Mr. Baudino’s argument, pointing out that:

9           The simple fact of the matter is that whatever stock price is set by  
10           the market, the company issuing stock will always net an amount  
11           less than the stock price due to the presence of intermediation and  
12           flotation costs. As a result, the company must earn slightly more on  
13           its reduced rate base in order to produce a return equal to that  
14           required by shareholders.<sup>146</sup>

### 15 **III. RESPONSE TO JOINT INTERVENORS WITNESS COMINGS**

16 **Q79. How does Mr. Comings arrive at his recommended ROE?**

17 A79. Mr. Comings recommends an ROE of 9.30% for Kentucky Power. In arriving at  
18 this proposal, he relies on DCF, CAPM, and ECAPM approaches. Joint  
19 Intervenors witness Comings develops constant growth DCF estimates using a  
20 variety of inputs, and concludes that this approach implies a cost of equity in the  
21 9.1% to 9.2% range. Meanwhile, his CAPM and ECAPM values fall in the range  
22 of 9.0% to 9.1%. Based on these findings, Mr. Comings concludes that the  
23 allowed ROE for Kentucky Power should remain unchanged at 9.3%.<sup>147</sup>

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<sup>144</sup> Baudino Direct at 43.

<sup>145</sup> McKenzie Direct at 58-61.

<sup>146</sup> Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 334-335.

<sup>147</sup> Comings Direct at 26.

1 **Q80. What is your conclusion with respect to the ROE recommended by Joint**  
2 **Intervenors?**

3 A80. Mr. Comings' recommended ROE of 9.30% for Kentucky Power is not credible  
4 and should be dismissed. An authorized ROE of 9.30% for the Company would  
5 be extreme and punitive. As discussed earlier in my testimony, notwithstanding  
6 the fact that bond yields are now much higher, his recommendation is unchanged  
7 from the ROE approved for the Company in 2021. Mr. Comings recommendation  
8 falls 45 basis points below the 9.75% ROE approved for Duke Energy, despite  
9 Kentucky Power's greater risks and the fact that bond yields have increased  
10 approximately 99 to 135 basis points since the hearings in Case No. 2022-00372.  
11 Mr. Comings' recommendation falls well below the returns available from  
12 comparable-risk investments and would undermine the financial integrity of the  
13 Company, conditions that violate the *Hope* and *Bluefield* regulatory standards.

14 **A. Discounted Cash Flow Model**

15 **Q81. How does Mr. Comings apply the DCF model?**

16 A81. Mr. Comings applies the constant growth DCF model to the same proxy group  
17 used in my direct testimony. Joint Intervenors witness Comings calculates the  
18 dividend yield component by dividing Value Line's estimated dividend for the  
19 next 12 months by a 30-day average stock price. With respect to growth rates,  
20 Mr. Comings relies on averages of historical and projected growth rates in EPS,  
21 DPS, and book value per share ("BVPS").

1 **Q82. Mr. comings argues that “All three measures—earnings, dividends, and book**  
2 **value—should be used in determining a growth rate . . .”<sup>148</sup> Do you agree**  
3 **with this assessment?**

4 A82. No. As discussed earlier in response to Mr. Baudino, evidence supports the  
5 contention that investors rely primarily on EPS growth projections in forming  
6 their expectations. The importance of EPS in evaluating investors’ expectations  
7 and requirements is well accepted in the investment community, and surveys of  
8 analytical techniques relied on by professional analysts indicate that earnings is  
9 far more influential than DPS or BVPS.<sup>149</sup>

10 **Q83. Joint Intervenors witness Comings also claims that “historical performance**  
11 **is known data” and that historical growth rates should also be included in**  
12 **applying the DCF model.<sup>150</sup> Do you agree?**

13 A83. No. I do not believe that historical trends provide a meaningful guide to  
14 investors’ expectations. As discussed in my direct testimony,<sup>151</sup> it is investors’  
15 future expectations—not actual, historical results—that determine the current  
16 price they are willing to pay for commons stocks. Mr. Baudino correctly noted  
17 the pitfalls associated with historical growth measures, observing that:

18 Five-year or ten-year historical growth rates may not accurately  
19 represent investor expectations for future dividend growth.  
20 Analysts’ forecasts for earnings and dividend growth provide  
21 better proxies for the expected growth component in the DCF  
22 model than historical growth rates. Analysts’ forecasts are also  
23 widely available to investors and one can reasonably assume that  
24 they influence investor expectations.<sup>152</sup>

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<sup>148</sup> *Id.* at 20

<sup>149</sup> Stanley B. Block, *A Study of Financial Analysts: Practice and Theory*, Financial Analysts Journal (July/August 1999).

<sup>150</sup> Comings Direct at 20-21.

<sup>151</sup> McKenzie Direct at 41-42.

<sup>152</sup> Baudino Direct at 19.

1 Mr. Comings himself grants that “overreliance on historical data implicitly  
2 assumes that history will just keep repeating.”<sup>153</sup>

3 I concur with these observations. Finally, to the extent historical trends  
4 for electric utilities are meaningful, they are also captured in projected growth  
5 rates, such as those published by Value Line, IBES, and Zacks Investment  
6 Research (“Zacks”), since securities analysts also routinely examine and assess  
7 the impact and continued relevance (if any) of historical trends.

8 **Q84. Has the Commission previously recognized that analysts’ EPS growth rate**  
9 **estimates are a more meaningful guide to investors’ expectations when**  
10 **applying the DCF model?**

11 A84. Yes. The Commission has indicated its preference for relying on analysts’  
12 projections in establishing investors’ expectations:

13 KU’s argument concerning the appropriateness of using investors’  
14 expectations in performing a DCF analysis is more persuasive than  
15 the AG’s argument that analysts’ projections should be rejected in  
16 favor of historical results. The Commission agrees that analysts’  
17 projections of growth will be relatively more compelling in forming  
18 investors’ forward-looking expectations than relying on historical  
19 performance . . .<sup>154</sup>

20 The Commission should reject Mr. Coming’s DCF analysis on this basis.

21 **B. Capital Asset Pricing Model**

22 **Q85. How does Joint Intervenor witness Comings implement his CAPM and**  
23 **ECAPM models?**

24 A85. Mr. Comings relies on an average historical MRP over 10-year Treasury bonds  
25 that he derived using data from the same finance professor referenced by Mr.  
26 Baudino.<sup>155</sup> He also relies on the same 5.5% MRP from Kroll included in Mr.

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<sup>153</sup> Comings Direct at 25.

<sup>154</sup> *Kentucky Utilities Co.*, Case No. 2009-00548 (Ky PSC Jul. 30, 2010) at 30-31.

<sup>155</sup> Comings Direct at 23, fn. 46.



1 Baudino's CAPM study. Mr. Comings combined these MRPs with risk-free rates  
2 based on six-month average yields for 10-year and 20-year Treasury bonds,  
3 respectively, and an average beta value of 0.89.

4 **Q86. Do the two sources of MRPs relied on by Mr. Comings present a sound**  
5 **foundation for a CAPM analysis?**

6 A86. No. I addressed the shortcomings of these sources earlier in response to Mr.  
7 Baudino.

8 **Q87. Mr. Comings references a 5.06% historical MRP measured using geometric**  
9 **averages.<sup>156</sup> Is this a meaningful benchmark?**

10 A87. No. While both the arithmetic and geometric means are legitimate measures of  
11 average return, they provide different information. Each may be used correctly,  
12 or misused, depending upon the inferences being drawn from the numbers. The  
13 geometric mean of a series of returns measures the constant rate of return that  
14 would yield the same change in the value of an investment over time. The  
15 arithmetic mean measures what the expected return would have to be each period  
16 to achieve the realized change in value over time.

17 In estimating the cost of equity, the goal is to replicate what investors  
18 expect going forward, not to measure average performance over an historical  
19 period. When referencing realized rates of return in the past, investors consider  
20 the data in each year independently, with the arithmetic average of these annual  
21 results providing the best estimate of what investors might expect in future  
22 periods. *New Regulatory Finance* confirms this view:

23 The best estimate of expected returns over a given future holding  
24 period is the arithmetic average. *Only arithmetic means are correct*  
25 *for forecasting purposes and for estimating the cost of capital.*  
26 There is no theoretical or empirical justification for the use of  
27 geometric mean rates of returns as a measure of the appropriate

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<sup>156</sup> *Id.* at 23.

1 discount rate in computing the cost of capital or in computing  
2 present values.<sup>157</sup>

3 Similarly, Duff & Phelps concludes that the arithmetic mean is the appropriate  
4 measure:

5 For use as the expected equity risk premium in either the CAPM or  
6 the building block approach, the arithmetic mean or the simple  
7 difference of the arithmetic means of stock market returns and  
8 riskless rates is the relevant number. ... The geometric average is  
9 more appropriate for reporting past performance, since it represents  
10 the compound average return.<sup>158</sup>

11 For a variable series, such as stock returns, the geometric average will always be  
12 less than the arithmetic average. Accordingly, Mr. Comings' reference to a  
13 geometric average MRP provides yet another element of built-in downward  
14 bias.<sup>159</sup>

15 **Q88. Joint Intervenors witness Comings uses a 5.5% MRP that he attributes to**  
16 **Kroll.<sup>160</sup> Does this reflect the only guidance provided by this source?**

17 A88. No. The 2023 edition of Kroll's SBBI Yearbook, which reports realized rates of  
18 return from 1926 through 2022, states that the long-horizon MRP for large  
19 company common stocks is 7.17% over long-term government bonds.<sup>161</sup>  
20 Combined with the average yield on 30-year Treasury bonds in October 2023 of  
21 4.95% and the 0.89 beta value used by Mr. Comings, this results in an implied  
22 CAPM cost of equity of 11.33%.<sup>162</sup>

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<sup>157</sup> Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 116-117, (emphasis added).

<sup>158</sup> Duff & Phelps, *2013 Valuation Yearbook, U.S. Guide to Cost of Capital*, John Wiley & Sons (2013) at 56.

<sup>159</sup> Applying Mr. Comings' CAPM analysis using only the arithmetic mean MRP results in a CAPM value of 9.7%.  $9.7\% = 6.64\% \times 0.89 + 3.76\%$ .

<sup>160</sup> *Id.* at 24.

<sup>161</sup> Kroll, *2023 SBBI Yearbook, U.S. Capital Markets Performance by Asset Class 1926-2022* at 177.

<sup>162</sup>  $(0.89 \times 7.17\%) + 4.95\% = 11.33\%$

1 **Q89. Do yields on 10-year Treasury notes and 20-year Treasury bonds referenced**  
2 **by Mr. Comings provide an appropriate basis to estimate the cost of equity**  
3 **using the CAPM?**

4 A89. No. Unlike debt instruments, common equity is a perpetuity. As a result, any  
5 application of the CAPM to estimate the return that investors require must be  
6 predicated on their expectations for the firm’s long-term risks and prospects. This  
7 does not mean that every investor will buy and hold a particular common stock  
8 into perpetuity. Rather, it recognizes that even an investor with a relatively short  
9 holding period will consider the long-term, because of its influence on the price  
10 that he or she ultimately receives from the stock when it is sold. This is also the  
11 basic assumption underpinning the DCF model, which in theory considers the  
12 present value of all future dividends expected to be received by a share of stock.

13 In applying the CAPM, Morningstar recognized that the cost of equity is a  
14 long-term cost of capital and the appropriate interest rate to use is a long-term  
15 bond yield:

16 The traditional thinking regarding the time horizon of the chosen  
17 Treasury security should match the horizon of whatever is being  
18 valued. . . . Note that the horizon is a function of the investment,  
19 not the investor. If an investor plans to hold a stock in a company  
20 for only five years, the yield on a five-year Treasury note would  
21 not be appropriate since the company will continue to exist beyond  
22 those five years.<sup>163</sup>

23 Similarly, FERC has concluded that, “30-year U.S. Treasury bond yields  
24 are a generally accepted proxy for the risk-free rate in a CAPM analysis, and are  
25 also considered superior to short- and intermediate-term bonds for this

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<sup>163</sup> Morningstar, *Ibbotson SBBI, 2013 Valuation Yearbook* at 44. Similarly, Duff & Phelps noted that “the valuation analyst should match the term of the risk-free rate used in the CAPM . . . with the duration of the expected net cash flows of the business, asset, or project being evaluated.” Duff & Phelps, *2018 Cost of Capital: Annual U.S. Guidance and Examples*, Cost of Capital Navigator, Chapter 3, page 2.

1 purpose.”<sup>164</sup> Accordingly, proper application of the CAPM should focus on long-  
2 term government bonds and Mr. Comings analysis is deficient in this respect.

3 **Q90. Mr. Comings objects that the 7.8% MRP used in your CAPM and ECAPM**  
4 **applications is “substantially higher than the historical premium.”<sup>165</sup>**

5 A90. Once again, Mr. Comings recommends consideration of dividend and book value  
6 growth, and advises that “historical data should be considered rather than  
7 ignored.”<sup>166</sup> I have already replied to these points previously in my response to  
8 Mr. Baudino, and earlier in my response to Mr. Comings.

9 **Q91. Does Mr. Comings fail to consider other important factors in his CAPM**  
10 **application?**

11 A91. Yes. Joint Intervenors witness Comings failed to adjust for the impact of firm  
12 size. As I discussed earlier in response to Mr. Baudino, his CAPM and ECAPM  
13 analyses are flawed as a result.

14 **C. Other ROE Issues**

15 **Q92. Mr. Comings does not agree with your use of the risk premium model. What**  
16 **are his objections?**

17 A92. Mr. Comings objects to my risk premium model on the basis that it “relies solely  
18 on historical data” and that this data “includes awarded ROEs from utility  
19 commissions which tend to overstate the cost of equity.”<sup>167</sup>

20 **Q93. Is your risk premium approach based only on historical data, as Mr.**  
21 **Comings claims?**

22 A93. No. In contrast to Mr. Comings’ portrayal, my risk premium analysis is not based  
23 on static, historical data. Rather, it specifically accounts for changes in capital

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<sup>164</sup> Opinion No. 531-B at P 114.

<sup>165</sup> Comings Direct at 22.

<sup>166</sup> *Id.* at 23.

<sup>167</sup> *Id.* at 25.

1 market conditions since the study period by incorporating current bond yields and  
2 adjusting for the inverse relationship between risk premiums and interest rates.  
3 As discussed earlier in response to Mr. Baudino, my risk premium application is a  
4 widely accepted method for estimating the cost of equity and the approach that I  
5 use has been endorsed by other regulators.

6 In some ways the risk premium method offers advantages to DCF and  
7 CAPM techniques. Unlike DCF models, which indirectly impute the cost of  
8 equity, risk premium methods directly estimate investors' required rate of return  
9 by adding an equity risk premium to observable bond yields. Compared to the  
10 DCF and CAPM, the risk premium approach is less reliant on restrictive  
11 assumptions. In describing the constant growth DCF model, Mr. Comings notes  
12 the required assumption of a constant dividend payout, a constant growth rate, and  
13 a constant cost of equity in perpetuity.<sup>168</sup> The CAPM depends on an assumption  
14 that there are no taxes or transaction costs. None of these assumptions are ever  
15 met. So while DCF and CAPM methods are valuable tools to estimate required  
16 rates of return, the risk premium method is also helpful. It is tied directly to  
17 observable capital market conditions, it is simple and straightforward, and it is not  
18 burdened with restrictive assumptions.

19 **Q94. Do you agree with Mr. Comings that authorized ROEs are overstated?**

20 A94. No. Mr. Comings' unsupported assertion of systemic bias on the part of  
21 regulators is inconsistent with my thirty-plus years of experience in the utility  
22 industry. The question of what constitutes a fair ROE is complex and requires  
23 consideration of alternative analytical results from disparate parties, along with  
24 underlying economic and regulatory principles. The duty of regulators is to  
25 weigh this evidence impartially and render a decision that balances the interests of

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<sup>168</sup> *Id.* at 18.

1 customers and investors, consistent with the Supreme Court’s directives. I have  
2 seen no indication that this process is skewed in favor of utilities.

3 **Q95. Mr. Comings suggests that, “If investors are willing to pay much more on the  
4 market than the book value, that is an indicator that the ROE is higher than  
5 the cost of equity.”<sup>169</sup> Is this a valid conclusion?**

6 A95. No. I strongly disagree with Mr. Comings’ suggestion that market-to-book  
7 (“MTB”) ratios are a valid indicator as to the reasonableness of earned returns or  
8 that they should be considered in setting the allowed ROE for utilities. With  
9 MTB ratios for most utilities above 1.0, Mr. Comings is suggesting that, unless  
10 book value grows rapidly, regulators should establish ROEs that will cause share  
11 prices to fall. Given the regulatory imperative of preserving a utility’s ability to  
12 attract capital, this would be a nonsensical result.

13 **Q96. Is the simplistic notion that regulation should result in an MTB of 1.0 for  
14 utilities contradicted by authoritative sources?**

15 A96. Yes. In a 1988 publication, James C. Bonbright noted that focus on MTB was  
16 unwarranted and outside the role of regulators:

17 In the first place, commissioners cannot forecast, except within  
18 wide limits, the effect their rate orders will have on the market  
19 prices of the stocks of the companies they regulate. In the second  
20 place, whatever the initial market prices may be, they are sure to  
21 change not only with the changing prospects for earnings, but with  
22 the changing outlook of an inherently volatile stock market. In  
23 short, market prices are beyond the control, though not beyond the  
24 influence, of rate regulation. Moreover, even if a commission did  
25 possess the power of control, any attempt to exercise it . . . would  
26 result in harmful, uneconomic shifts in public utility rate levels.<sup>170</sup>

27 The well-known financial researcher Stewart C. Myers also observed the  
28 disconnect between regulation and the resulting MTB:

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<sup>169</sup> *Id.* at 25.

<sup>170</sup> James C. Bonbright, Albert L. Danielsen, and David R. Kamerschen, *Principles of Public Utility Rates*, Pub. Util. Reports, Inc. (1988) at 334.

1 [A] straightforward application of the cost of capital to a book  
2 value rate base does not automatically imply that the market and  
3 book values will be equal. This is an obvious but important point.  
4 If straightforward approaches did imply equality of market and  
5 book values, then there would be no need to estimate the cost of  
6 capital.<sup>171</sup>

7 Similarly, Charles F. Phillips also recognized the divergence between the  
8 implications of theoretical models and real-world considerations:

9 Many question the assumption that market price should equal book  
10 value, believing that the earnings of utilities should be sufficiently  
11 high to achieve market-to-book ratios which are consistent with  
12 those prevailing for stocks of unregulated companies.<sup>172</sup>

13 *New Regulatory Finance* concludes that, “This is certainly not a realistic  
14 or accurate view of regulation,”<sup>173</sup> and notes:

15 M/B ratios are determined by the marketplace, and utilities cannot  
16 be expected to compete for and attract capital in an environment  
17 where industrials are commanding M/B ratios well in excess of 1.0  
18 while regulation reduces their M/B ratios toward 1.0. Moreover, if  
19 regulators were to currently set rates so as to produce an M/B of  
20 1.0 . . . the inevitable consequence would be to inflict severe  
21 capital losses on shareholders. Investors have not committed  
22 capital to utilities with the expectation of incurring capital losses  
23 from a misguided regulatory process.

24 \* \* \*

25 Consequently, it is quite reasonable for the market value of utility  
26 shares to exceed their book value and there is no reason to  
27 conclude that market value should equal book value when one  
28 recognizes that regulation is intended to emulate competition.<sup>174</sup>

29 The MTB ratio is determined by investors in the stock market, and a utility would  
30 be foreclosed from attracting capital if regulators were to push the MTB ratio to  
31 1.0 while other firms command prices well in excess of 1.0 times book value.

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<sup>171</sup> Stewart C. Myers, *The Application of Finance Theory to Public Utility Rate Cases*, Bell J. Econ. & Mgmt. Science (Spring 1972) at 58-59.

<sup>172</sup> Charles F. Phillips, *The Regulation of Public Utilities-Theory and Practice*, Pub. Util. Reports, Inc. (1993) at 395 (internal quotes omitted).

<sup>173</sup> Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 376.

<sup>174</sup> *Id.* at 377-78.

1 **Q97. Are adjustments based on MTB ratios a common feature in determining**  
2 **allowed ROEs for utilities?**

3 A97. No. While arguments regarding the implications of a MTB ratio greater than 1.0  
4 are not uncommon, I am not aware of a single instance in recent history where a  
5 state regulator has approved a MTB adjustment in establishing a fair ROE.  
6 Meanwhile, FERC has explicitly recognized the fallacy of relying on MTB ratios  
7 in evaluating cost of equity estimates, labelling such proposals as “academic  
8 rhetoric,”<sup>175</sup> and concluding that “[i]f, all else being equal, the regulator sets a  
9 utility’s ROE so that the utility does not have the opportunity to earn a return on  
10 its book value comparable to the amount that investors expect that other utilities  
11 of comparable risk will earn on their book equity, the utility will not be able to  
12 provide investors the return they require to invest in that utility.”<sup>176</sup>

13 **Q98. Mr. Comings objects to your reliance on the expected earnings model**  
14 **“because it is reliant on one measure in one year.”<sup>177</sup> Is this a valid concern?**

15 A98. No. The expected earned rates of return on equity used as the basis for my  
16 application of the expected earnings approach are based on the 2026-28 forecast  
17 horizon adopted by Value Line. This is the same horizon underlying all of the  
18 Value Line EPS, DPS, and BVPS growth rates that Mr. Comings relied on for his  
19 own DCF analysis.

20 **Q99. Mr. Comings claims that “FERC has rejected the use of the expected**  
21 **earnings test.”<sup>178</sup> Does he offer a balanced portrayal of FERC ROE policy?**

22 A99. No. While it is correct that FERC elected not to adopt the expected earnings  
23 approach in the 2019 decision cited by Mr. Comings, FERC has also concluded  
24 that:

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<sup>175</sup> See, e.g., *Orange & Rockland Utilities, Inc.*, Initial Decision, 40 FERC ¶ 63,053, 1987 WL 118,352 (F.E.R.C.).

<sup>176</sup> Opinion No. 531-B at P 129.

<sup>177</sup> Comings Direct at 25.

<sup>178</sup> *Id.* at 26.



1 The returns on book equity that investors expect to receive from a  
2 group of companies with risks comparable to those of a particular  
3 utility are relevant to determining that utility’s market cost of  
4 equity, because those returns on book equity help investors  
5 determine the opportunity cost of investing in that particular utility  
6 instead of other companies of comparable risk. Such a calculation  
7 is consistent with the requirement in *Hope* that “the return to the  
8 equity owner should be commensurate with returns on investments  
9 in other enterprises having corresponding risks.”<sup>179</sup>

10 FERC has also concluded that, “an expected earnings analysis can be useful for  
11 corroborating whether the results produced by the DCF model may have been  
12 skewed . . .”<sup>180</sup>

13 Moreover, Mr. Comings fails to note that FERC’s ROE methodology for  
14 electric utilities incorporates a CAPM approach that is identical to my analysis, as  
15 well as a risk premium approach that is directly analogous to the application  
16 presented in my direct testimony.<sup>181</sup>

17 **Q100. Mr. Comings suggests that the Commission should not be concerned about**  
18 **Kentucky Power’s “recent poor financial performance” when evaluating a**  
19 **fair ROE.<sup>182</sup> Do you agree?**

20 A100. No. As discussed in my direct testimony,<sup>183</sup> regulatory lag and earnings attrition  
21 are important considerations for investors and the Company’s systemic inability  
22 to earn its authorized ROE violates the regulatory standards established by the  
23 Supreme Court. Mr. Comings’ observation that “Kentucky Power does not have  
24 to raise money on the equity markets directly”<sup>184</sup> does not mean that the specific  
25 risks and return requirements of the Company can be ignored.

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<sup>179</sup> Opinion No. 531-B at P 128.

<sup>180</sup> *Ass’n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 551, 156 FERC ¶ 61,234 (2016).

<sup>181</sup> *See, e.g.*, Opinion No. 569-A.

<sup>182</sup> Comings Direct at 14.

<sup>183</sup> McKenzie Direct at 27-28.

<sup>184</sup> Comings Direct at 16.

1           As the Supreme Court noted in *Hope*, “the return to the equity owner  
2           should be commensurate with returns on investments in other enterprises having  
3           corresponding risks.” At the time of the rate case at issue in the Supreme Court’s  
4           decision, Hope Natural Gas Company (“Hope”) was a subsidiary of Standard Oil  
5           Company of New Jersey (the predecessor of ExxonMobil).<sup>185</sup> Just like Kentucky  
6           Power, Hope did not raise common equity directly through the sale of common  
7           stock. But the standard of a fair rate of return articulated in the *Hope* case did not  
8           relate to the parent, but to the utility. Hope was the entity that undertook the  
9           utility obligations and the benchmark for the adequacy of returns was the end  
10          result for the utility, not for Standard Oil.

11           There is no basis in economics or regulatory standards to support Mr.  
12          Comings’ suggestion that Kentucky Power’s specific circumstances should be  
13          ignored when evaluating the reasonableness of the 9.9% ROE requested by the  
14          Company.

15   **Q101. DOES THIS CONCLUDE YOUR PRE-FILED REBUTTAL TESTIMONY?**

16   A101. Yes, it does.

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<sup>185</sup> John D. Rockefeller’s Standard Oil of New Jersey formed Hope in 1898. Standard Oil’s natural gas subsidiaries (including Hope) were eventually spun off as Consolidated Natural Gas Company, which was ultimately acquired by Dominion Resources, Inc. in 2000.

## IMPLIED COST OF EQUITY

Exhibit AMM-13

Page 1 of 1

### NATIONAL AUTHORIZED ROES

|   | <u>2019</u>    | <u>2020</u>    | <u>2021</u>    | <u>2022</u>    | <u>2023</u>    |
|---|----------------|----------------|----------------|----------------|----------------|
| 1 Allowed ROE                             | 9.74%          | 9.55%          | 9.53%          | 9.75%          | 9.74%          |
| 2 Average Baa Utility Yield               | <u>4.20%</u>   | <u>3.39%</u>   | <u>3.35%</u>   | <u>5.03%</u>   | <u>5.81%</u>   |
| 3 Implied Risk Premium                    | 5.54%          | 6.16%          | 6.18%          | 4.72%          | 3.93%          |
| 4 October 2023 Baa Utility Yield          | <u>6.61%</u>   | <u>6.61%</u>   | <u>6.61%</u>   | <u>6.61%</u>   | <u>6.61%</u>   |
| 5 Change in Bond Yield                    | 2.41%          | 3.22%          | 3.26%          | 1.58%          | 0.80%          |
| 6 Risk Premium/Interest Rate Relationship | <u>-0.4273</u> | <u>-0.4273</u> | <u>-0.4273</u> | <u>-0.4273</u> | <u>-0.4273</u> |
| 7 Adjustment to Risk Premium              | -1.03%         | -1.38%         | -1.39%         | -0.68%         | -0.34%         |
| 8 Adjusted Risk Premium                   | 4.51%          | 4.78%          | 4.78%          | 4.05%          | 3.59%          |
| 9 <b>Adjusted ROE</b>                     | <b>11.12%</b>  | <b>11.39%</b>  | <b>11.39%</b>  | <b>10.66%</b>  | <b>10.20%</b>  |
| 10 <b>Average</b>                         | <b>10.99%</b>  |                |                |                |                |

1 S&P Global, *Major energy rate case decisions in the US January-September 2023*, RRA Regulatory Focus (Nov. 1, 2023). 2023 data for Q1, Q2 and Q3 only.

2 Moody's Credit Trends.

3 (1) - (2).

4 Moody's Credit Trends.

5 (4) - (2).

6 Exhibit AMM-9 at page 3.

7 (5) x (6).

8 (3) + (7).

9 (4) + (8).

10 2023 weighted at 3/4; earlier years weighted at 4/4.

**IMPLIED COST OF EQUITY**

**KPSC APPROVED ROES**

|   | <b>Duke Energy<br/>2019-00271</b> | <b>KPCo<br/>2020-00174</b> | <b>KUCo<br/>2020-00349</b> |
|---|-----------------------------------|----------------------------|----------------------------|
| 1 Filed Date                              | 8/1/2019                          | 7/15/2020                  | 10/23/2020                 |
| 1 Order Date                              | 4/27/2020                         | 1/13/2021                  | 6/30/2021                  |
| 1 Approved ROE                            | 9.25%                             | 9.30%                      | 9.425%                     |
| 2 Average Baa Utility Yield               | <u>3.71%</u>                      | <u>3.14%</u>               | <u>3.37%</u>               |
| 3 Implied Risk Premium                    | 5.54%                             | 6.16%                      | 6.06%                      |
| 4 October 2023 Baa Utility Yield          | <u>6.61%</u>                      | <u>6.61%</u>               | <u>6.61%</u>               |
| 5 Change in Bond Yield                    | 2.90%                             | 3.47%                      | 3.24%                      |
| 6 Risk Premium/Interest Rate Relationship | <u>-0.4273</u>                    | <u>-0.4273</u>             | <u>-0.4273</u>             |
| 7 Adjustment to Risk Premium              | -1.24%                            | -1.48%                     | -1.38%                     |
| 8 Adjusted Risk Premium                   | 4.30%                             | 4.68%                      | 4.67%                      |
| 9 <b>Adjusted ROE</b>                     | <b>10.91%</b>                     | <b>11.29%</b>              | <b>11.28%</b>              |
| <b>Average</b>                            |                                   | <b>11.16%</b>              |                            |

- 1 Commission orders in the respective proceedings.
- 2 Average yield on Baa utility bonds over the duration of the proceeding from Moody's Credit Trends.
- 3 (1) - (2).
- 4 Moody's Credit Trends.
- 5 (4) - (2).
- 6 Exhibit AMM-9 at page 3.
- 7 (5) x (6).
- 8 (3) + (7).
- 9 (4) + (8).

**CURRENT ALLOWED ROEs**

Exhibit AMM-15

Page 1 of 2

**BAUDINO GROUP**

|    |                        | (a)                |
|----|------------------------|--------------------|
|    | <b>Company</b>         | <b>Allowed ROE</b> |
| 1  | Avista Corp.           | 9.40%              |
| 2  | Black Hills Corp.      | 9.37%              |
| 3  | CenterPoint Energy     | 9.40%              |
| 4  | CMS Energy Corp.       | 9.90%              |
| 5  | DTE Energy Co.         | 9.90%              |
| 6  | Duke Energy Corp.      | 9.83%              |
| 7  | Edison International   | 10.30%             |
| 8  | Emera Inc.             | n/a                |
| 9  | Entergy Corp.          | 9.71%              |
| 10 | IDACORP, Inc.          | 10.00%             |
| 11 | NorthWestern Corp.     | 10.03%             |
| 12 | Otter Tail Corp.       | 9.33%              |
| 13 | Pub Sv Enterprise Grp. | 9.60%              |
| 14 | Sempra Energy          | 9.95%              |
| 15 | Southern Company       | 12.50%             |
|    | <b>Average</b>         | <b>9.94%</b>       |

(a) The Value Line Investment Survey (Aug. 11, Sep. 8 and Oct. 20, 2023).

**CURRENT ALLOWED ROEs**

Exhibit AMM-15

Page 2 of 2

**COMINGS GROUP**

|    |                        | (a)                |
|----|------------------------|--------------------|
|    | <b>Company</b>         | <b>Allowed ROE</b> |
| 1  | Avista Corp.           | 9.40%              |
| 2  | Black Hills Corp.      | 9.37%              |
| 3  | CenterPoint Energy     | 9.40%              |
| 4  | CMS Energy Corp.       | 9.90%              |
| 5  | Dominion Energy        | 9.43%              |
| 6  | DTE Energy Co.         | 9.90%              |
| 7  | Duke Energy Corp.      | 9.83%              |
| 8  | Edison International   | 10.30%             |
| 9  | Emera Inc.             | n/a                |
| 10 | Entergy Corp.          | 9.71%              |
| 11 | Exelon Corp.           | 9.58%              |
| 12 | Hawaiian Elec.         | 9.50%              |
| 13 | IDACORP, Inc.          | 10.00%             |
| 14 | NorthWestern Corp.     | 10.03%             |
| 15 | Otter Tail Corp.       | 9.33%              |
| 16 | Pub Sv Enterprise Grp. | 9.60%              |
| 17 | Sempra Energy          | 9.95%              |
| 18 | Southern Company       | 12.50%             |
|    | <b>Average</b>         | <b>9.87%</b>       |

(a) The Value Line Investment Survey (Aug. 11, Sep. 8 and Oct. 20, 2023).

**EXPECTED EARNINGS APPROACH**

**Exhibit AMM-16**

**Page 1 of 2**

**BAUDINO GROUP**

|                           | (a)                     | (b)               | (c)                     |
|---------------------------|-------------------------|-------------------|-------------------------|
|                           |                         | <b>Mid-Year</b>   |                         |
| <b>Company</b>            | <b>Expected Return</b>  | <b>Adjustment</b> | <b>Adjusted Return</b>  |
|                           | <b>on Common Equity</b> | <b>Factor</b>     | <b>on Common Equity</b> |
| 1 Avista Corp.            | 7.5%                    | 1.0260            | 7.7%                    |
| 2 Black Hills Corp.       | 8.0%                    | 1.0257            | 8.2%                    |
| 3 CenterPoint Energy      | 10.0%                   | 1.0289            | 10.3%                   |
| 4 CMS Energy Corp.        | 12.0%                   | 1.0333            | 12.4%                   |
| 5 DTE Energy Co.          | 12.5%                   | 1.0299            | 12.9%                   |
| 6 Duke Energy Corp.       | 9.0%                    | 1.0111            | 9.1%                    |
| 7 Edison International    | 14.0%                   | 1.0178            | 14.2%                   |
| 8 Emera Inc.              | 10.5%                   | 1.0309            | 10.8%                   |
| 9 Entergy Corp.           | 8.5%                    | 1.0293            | 8.7%                    |
| 10 IDACORP, Inc.          | 9.5%                    | 1.0221            | 9.7%                    |
| 11 NorthWestern Corp.     | 8.0%                    | 1.0190            | 8.2%                    |
| 12 Otter Tail Corp.       | 11.5%                   | 1.0199            | 11.7%                   |
| 13 Pub Sv Enterprise Grp. | 13.0%                   | 1.0231            | 13.3%                   |
| 14 Sempra Energy          | 11.0%                   | 1.0191            | 11.2%                   |
| 15 Southern Company       | <u>14.5%</u>            | 1.0163            | <u>14.7%</u>            |
| <b>Average (d)</b>        | 10.6%                   |                   | <b>10.9%</b>            |

(a) The Value Line Investment Survey (Aug. 11, Sep. 8 and Oct. 20, 2023).

(b) Computed using the formula  $2 \times (1 + 5\text{-Yr. Change in Equity}) / (2 + 5 \text{ Yr. Change in Equity})$ .

(c) (a) x (b).

(d) Excludes highlighted values.

**EXPECTED EARNINGS APPROACH**

**Exhibit AMM-16**

**Page 2 of 2**

**COMINGS GROUP**

|                           | (a)   | (b)                          | (c)   |
|---------------------------|---|------------------------------|---|
|                           | <b>Mid-Year</b>                             |                              |   |
| <b>Company</b>            | <b>Expected Return<br/>on Common Equity</b> | <b>Adjustment<br/>Factor</b> | <b>Adjusted Return<br/>on Common Equity</b> |
| 1 Avista Corp.            | 7.5%  | 1.0260                       | 7.7%  |
| 2 Black Hills Corp.       | 8.0%  | 1.0257                       | 8.2%  |
| 3 CenterPoint Energy      | 10.0%                                       | 1.0289                       | 10.3%                                       |
| 4 CMS Energy Corp.        | 12.0%                                       | 1.0333                       | 12.4%                                       |
| 5 Dominion Energy         | 11.0%                                       | 1.0298                       | 11.3%                                       |
| 6 DTE Energy Co.          | 12.5%                                       | 1.0299                       | 12.9%                                       |
| 7 Duke Energy Corp.       | 9.0%  | 1.0111                       | 9.1%  |
| 8 Edison International    | 14.0%                                       | 1.0178                       | 14.2%                                       |
| 9 Emera Inc.              | 10.5%                                       | 1.0309                       | 10.8%                                       |
| 10 Entergy Corp.          | 8.5%  | 1.0293                       | 8.7%  |
| 11 Exelon Corp.           | 10.0%                                       | 1.0195                       | 10.2%                                       |
| 12 Hawaiian Elec.         | 4.0%  | 1.0228                       | 4.1%  |
| 13 IDACORP, Inc.          | 9.5%  | 1.0221                       | 9.7%  |
| 14 NorthWestern Corp.     | 8.0%  | 1.0190                       | 8.2%  |
| 15 Otter Tail Corp.       | 11.5%                                       | 1.0199                       | 11.7%                                       |
| 16 Pub Sv Enterprise Grp. | 13.0%                                       | 1.0231                       | 13.3%                                       |
| 17 Sempra Energy          | 11.0%                                       | 1.0191                       | 11.2%                                       |
| 18 Southern Company       | 14.5%                                       | 1.0163                       | 14.7%                                       |
| <b>Average (d)</b>        | 10.3%                                       |                              | <b>10.9%</b>                                |

(a) The Value Line Investment Survey (Aug. 11, Sep. 8 and Oct. 20, 2023).

(b) Computed using the formula  $2 * (1 + 5\text{-Yr. Change in Equity}) / (2 + 5\text{ Yr. Change in Equity})$ .

(c) (a) x (b).

(d) Excludes highlighted values.



VERIFICATION

The undersigned, Adrien M. McKenzie, being duly sworn, deposes and says he is the President of FINCAP, Incorporated, that he has personal knowledge of the matters set forth in the foregoing testimony and the information contained therein is true and correct to the best of his information, knowledge, and belief after reasonable inquiry.

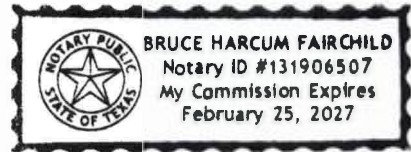
Adrien M. McKenzie  
Adrien M. McKenzie

STATE OF TEXAS            )  
  )  
COUNTY OF TRAVIS        )

Case No. 2023-00159

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Adrien M. McKenzie, on November 5, 2023

Bruce Fairchild  
Notary Public



My Commission Expires 2/25/2027

Notary ID Number 131906507