

**BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of )  
Northeast Ohio Gas Corp. for an Increase ) Case No. 18-1720-GA-AIR  
In Gas Distribution Rates. )

In the Matter of the Application of )  
Northeast Ohio Natural Gas Corp. for ) Case No. 18-1721-GA-ATA  
Tariff Approval. )

In the Matter of the Application of )  
Northeast Ohio Natural Gas Corp. for ) Case No. 18-1722-GA-ALT  
Approval of Alternative Regulation. )

**DIRECT TESTIMONY  
OF  
DANIEL J. DUANN, Ph.D.**

**On Behalf of  
The Office of the Ohio Consumers' Counsel**  
*65 East State Street, 7th Floor  
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**July 25, 2019**

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1    **I.        INTRODUCTION**

2

3    ***Q1.    PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION.***

4    ***A1.***    My name is Daniel J. Duann. My business address is 65 East State Street, 7<sup>th</sup>  
5        Floor, Columbus, Ohio, 43215-4213. I am the Assistant Director of Analytical  
6        Services with the Office of the Ohio Consumers' Counsel ("OCC").

7

8    ***Q2.    PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND***  
9        ***EDUCATIONAL BACKGROUND.***

10   ***A2.***    I joined OCC in January 2008 as a Senior Regulatory Analyst. I was promoted to  
11        the position of Principal Regulatory Analyst in November 2011 and to my current  
12        position in June 2018. My primary responsibility is to assist OCC by participating  
13        in proceedings before the Public Utilities Commission of Ohio ("PUCO"). These  
14        proceedings include rate cases, cost of capital, fuel adjustment clause, standard  
15        service offer, and other types of cases filed by Ohio's electric, gas, and water  
16        utilities.

17

18        Prior to joining OCC, I was a Utility Examiner II in the Forecasting Section of the  
19        Ohio Division of Energy, Ohio Department of Development from 1983 to 1985.

20        The Forecasting Section was later transferred to the PUCO. From 1985 to 1986, I  
21        was an Economist with the Center of Health Policy Research at the American  
22        Medical Association in Chicago. In late 1986, I joined the Illinois Commerce  
23        Commission as a Senior Economist at its Policy Analysis and Research Division.

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1 From 1987 to 1995, I was employed as a Senior Institute Economist at the  
2 National Regulatory Research Institute (“NRRI”) at The Ohio State University.  
3 NRRI has been a policy research center funded by the National Association of  
4 Regulatory Utility Commissioners and state public utilities commissions since  
5 1976. NRRI is currently located in Washington, D.C. and is no longer a part of  
6 The Ohio State University. My work at NRRI involved research, authoring  
7 publications, and public services in many areas of utility regulation and energy  
8 policy. I was an independent consultant from 1996 to 2007.

9  
10 I received my Ph.D. degree in Public Policy Analysis from the Wharton School,  
11 University of Pennsylvania in 1984. I also have an M.S. degree in Energy  
12 Management and Policy from the University of Pennsylvania, and an M.A. degree  
13 in Economics from the University of Kansas. I completed my undergraduate study  
14 in Business Administration at the National Taiwan University, Taiwan, Republic  
15 of China in 1977. I have been a Certified Rate of Return Analyst by the Society of  
16 Utility and Regulatory Financial Analysts since 2011.

17  
18 ***Q3. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY OR TESTIFIED***  
19 ***BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO?***

20 ***A3.*** Yes. I have submitted expert testimony or testified on behalf of the OCC before  
21 the PUCO in numerous cases. A list of these cases is included in Attachment  
22 DJD-1.

1   ***Q4. HAVE YOU PREVIOUSLY TESTIFIED BEFORE OTHER REGULATORY***  
2   ***AGENCIES AND LEGISLATURES?***

3   ***A4.*** Yes. I have testified before the Illinois Commerce Commission in 1987 regarding  
4   the proposed divestiture of three nuclear power plants by Commonwealth Edison  
5   Company. I also testified before the California State Legislature (specifically, the  
6   Senate Committee on Energy and Public Utilities) in 1989 regarding proposed  
7   legislation banning “sweetheart deals” between electric utilities and their non-  
8   regulated affiliates (SB 769).

9  
10   ***Q5. HAVE YOU PREVIOUSLY PUBLISHED OR PRESENTED IN ACADEMIC***  
11   ***JOURNALS, TRADE PUBLICATIONS, AND PROFESSIONAL***  
12   ***CONFERENCES?***

13   ***A5.*** Yes. I have published and presented in many academic journals, trade  
14   publications, and professional conferences on issues related to public utility  
15   regulation, energy policy, and alternative energy. These publications and  
16   presentations are listed in Attachment DJD-2.

17  
18   **II. PURPOSE AND RECOMMENDATION**  
19

20   ***Q6. WHAT IS THE PURPOSE OF YOUR TESTIMONY?***

21   ***A6.*** My testimony explains and supports four OCC Objections (OCC Objections 1 to  
22   4) to the rate of return analysis and recommendations in the Staff Report (“Staff

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1 Report”) filed on June 25, 2019 in this proceeding.<sup>1</sup> In addition, my testimony  
2 will review and critique the rate of return and its associated components (such as  
3 capital structure and return on equity or cost of equity) requested by Northeast  
4 Ohio Natural Gas Corp. (“NEO”) in its Application.<sup>2</sup> My testimony will also  
5 explain and support OCC’s recommendation for a just and reasonable rate of  
6 return for NEO in this proceeding.

7

8 ***Q7. PLEASE SUMMARIZE YOUR RECOMMENDATIONS?***

9 ***A7.*** First, I recommend that the PUCO adopt OCC’s Objections 1 to 4 to the Staff  
10 Report. In doing so, the PUCO should reject the Staff Report’s proposed range of  
11 rate of return (“ROR”) of 7.80% to 8.45% and related components because they  
12 are unjust and unreasonable.<sup>3</sup>

13

14 Second, I recommend the PUCO reject the return on equity (“ROE”) of 10.83%,  
15 and rate of return of 8.66% proposed by NEO in its Application because they are  
16 based on faulty and unreasonable data and methodologies.<sup>4</sup> Additionally, the  
17 ROE and ROR proposed by NEO are outside the ranges of ROE and ROR

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<sup>1</sup> See *In the Matter of the Application of Northeast Ohio Natural Gas Company, for an Increase in Gas Distribution Rates*, Case No 18-1720-GA-AIR, Staff Report (June 25, 2019).

<sup>2</sup> See *In the Matter of the Application of Northeast Ohio Natural Gas Company, for an Increase in Gas Distribution Rates*, Case No 18-1720-GA-AIR (December 28, 2018) (“Application”).

<sup>3</sup> See Staff Report at 16.

<sup>4</sup> See Application, Schedule D-1.

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1 recommended in the Staff Report, which are already overly generous and  
2 unreasonably high.

3  
4 As a related matter, I recommend the PUCO reject the 10.54% (or 10.52%) pre-  
5 tax rate of return proposed by NEO<sup>5</sup> for its capital investment in its Infrastructure  
6 Replacement Program (“IRP”) if the PUCO decides to establish Rider IRP in spite  
7 of the PUCO Staff’s recommendation to deny NEO’s request..<sup>6</sup>

8  
9 Last, I recommend that the PUCO adopt a return on equity (“ROE”) that is no  
10 higher than 9.50%, a capital structure of 55% equity and 45% long-term debt, and  
11 a rate of return that is no higher than 7.35% for NEO in this proceeding.<sup>7</sup> As a  
12 result of my recommendation, the PUCO should approve an annual revenue  
13 increase of no more than \$238,716 and an annual revenue requirement of no  
14 higher than \$36,190,164.<sup>8</sup> See Attachment DJD-3. Doing so will protect NEO’s  
15 customers from paying unjust and unreasonable rates. Furthermore, if the PUCO  
16 approve the Infrastructure Replacement Program proposed by NEO, the pre-tax  
17 rate of return applicable to Rider IRP should be no higher than 8.74%.<sup>9</sup>

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<sup>5</sup> See Application at 20 and Direct Testimony of Charles E. Loy, Exhibit CEL-3, Page 1 of 1, Line 14 (January 11, 2019) (The 10.54% pre-tax rate of return was proposed in the Application and the 10.52% pre-tax rate of return was used to calculate the Rider IRP revenue requirement in the Loy testimony).

<sup>6</sup> See Staff Report at 20-21.

<sup>7</sup>  $7.35\% = (0.45 \times 4.72\%) + (0.55 \times 9.50\%)$ .

<sup>8</sup> This revenue requirement and revenue increase are calculated based on Schedule A-1 of the Staff Report and my recommended rate of return of 7.35%. I have no opinion regarding other adjustments related to Schedule A-1 proposed in the Staff Report.

<sup>9</sup>  $8.74\% = (0.45 \times 4.72\%) + (0.55 \times 9.50\%) \times 1.265823$ .

**III. THE REGULATORY PRINCIPLES IN SETTING A REASONABLE  
RETURN ON EQUITY AND RATE OF RETURN FOR A REGULATED  
UTILITY**

***Q8. BASED ON YOUR EXPERIENCE AND KNOWLEDGE AS A REGULATORY  
ECONOMIST, WHAT IS THE MOST-OFTEN CITED COURT DECISION  
REGARDING THE SETTING OF A REASONABLE RETURN ON EQUITY  
AND RATE OF RETURN THAT CUSTOMERS MUST PAY TO A  
REGULATED UTILITY?***

***A8.*** I am not an attorney and I am not providing any legal analysis here. However, based on my years of experience in this field, I would say the case of *Bluefield Water Works v. Public Service Comm'n*, 262 U.S. 679 (1923) (hereafter referred as the “Bluefield Decision”) before the United States Supreme Court is probably the most important court decision regarding the setting of a reasonable return on equity and rate of return for a regulated utility. This Bluefield Decision has been cited in numerous utility rate case proceedings in many jurisdictions over many years. In my view, the Bluefield Decision is still relevant and valid today. In this case, the U.S. Supreme Court ruled, among other things, that:

A public utility is entitled to such rates as will permit it to  
earn a return on the value of the property which it employs  
for the convenience of the public equal to that generally  
being made at the same time and in the same general part of



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1 the country on investments in other business undertakings  
2 which are attended by corresponding risks and  
3 uncertainties; but it has no constitutional right to profits  
4 such as are realized or anticipated in highly profitable  
5 enterprises or speculative ventures. The return should be  
6 reasonably sufficient to assure confidence in the financial  
7 soundness of the utility, and should be adequate, under  
8 efficient and economic management, to maintain and  
9 support its credit and enable it to raise the money necessary  
10 for the proper discharge of its public duties. A rate of return  
11 may be reasonable at one time and become too high or too  
12 low by changes affecting opportunities for investment, the  
13 money market, and business conditions generally.

14  
15 This paragraph succinctly embodies the essential regulatory principles that should  
16 be considered in setting a reasonable authorized return on equity or rate of return  
17 for a regulated public utility such as the NEO in this proceeding.

1   ***Q9. THEN WHAT IS YOUR UNDERSTANDING OF THE REGULATORY***  
2                   ***PRINCIPLES APPLICABLE IN SETTING A REASONABLE RETURN ON***  
3                   ***EQUITY AND RATE OF RETURN THAT CUSTOMERS MUST PAY TO A***  
4                   ***REGULATED UTILITY SUCH AS NEO?***

5   ***A9.*** My understanding is the regulatory principles applicable in setting a reasonable  
6           rate of return and its associated components (such as return on equity, cost of  
7           debt, and capital structure) are well established and there is widespread agreement  
8           among academics and practitioners regarding these regulatory principles, even  
9           though the methodologies and data employed in implementing them may vary.  
10          These regulatory principles can be summarized as followings:

11

12                   (1)    The resulting rates (as set based on the authorized rate of  
13                            return) paid by the customers of the regulated utility should  
14                            be just and reasonable;

15                   (2)    The regulated utility should have funds available to  
16                            continue its normal course of business;

17                   (3)    The regulated utility should have access to capital (both  
18                            equity and debt) at a reasonable cost under current market  
19                            conditions; and

20                   (4)    The shareholders of the regulated utility should be provided  
21                            the opportunity (not a guarantee) to earn a fair (but not  
22                            excessive) return on their invested capital in comparison to  
23                            other investments available.

1    ***Q10. DOES THE RATE OF RETURN ANALYSIS IN THE STAFF REPORT***  
2            ***COMPORT WITH THESE REGULATORY PRINCIPLES?***

3    ***A10.*** No. The Staff Report relies primarily on the actual earned return on equity of six  
4           gas companies in deriving its recommended range of required return on equity  
5           and eventually its recommended rate of return. As explained later in my  
6           testimony, this approach is without merit, unproven, and rarely, if ever, used in  
7           PUCO rate case proceedings. In addition, the resulting ROE and ROR as  
8           proposed in the Staff Report are based on a faulty methodology and far exceed a  
9           reasonable ROE or rate of return for NEO.

10  
11   ***Q11. DOES THE RATE OF RETURN ANALYSIS PROPOSED BY NEO***  
12           ***COMPORT WITH THESE REGULATORY PRINCIPLES?***

13   ***A11.*** No. The rate of return analysis proposed by NEO does rely on established  
14           financial models and market-based and projected information in estimating the  
15           required return on equity and rate of return.<sup>10</sup> However, as explained later in my  
16           testimony, NEO's rate of return analysis includes many faulty assumptions and  
17           input data as well as some questionable adjustments to established methodologies  
18           of rate of return analysis. More importantly, the resulting ROE and ROR  
19           requested by NEO are exceedingly high and even higher than those proposed in  
20           the Staff Report. The ROE and ROR proposed by NEO are unreasonable  
21           considering the recent average authorized ROE and ROR nationwide, the recent

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<sup>10</sup> See Case No. 18-1720-GA-AIR, Direct Testimony of Gregory E. Scheig (January 11, 2019).

1 return on equity and rate of return authorized by the PUCO, the results from  
2 modifications to NEO's analysis, and current financial market conditions.

3  
4 **IV. THE RATE OF RETURN ANALYSIS IN THE STAFF REPORT IS**  
5 **FLAWED AND UNREASONABLE AND, IF ADOPTED WILL CAUSE**  
6 **CUSTOMERS TO PAY UNJUST AND UNREASONABLE RATES**

7  
8 ***Q12. PLEASE SUMMARIZE THE RATE OF RETURN ANALYSIS AND***  
9 ***RECOMMENDATIONS IN THE STAFF REPORT.***

10 ***A12.*** In the Staff Report, the PUCO Staff adopted the capital structure (35.53% debt  
11 and 64.47% equity) requested by NEO.<sup>11</sup> Staff also adopted the cost of long-term  
12 debt (4.72%) proposed by NEO.<sup>12</sup> The PUCO Staff believed, for various reasons,  
13 that it was unable to use the traditional methods of Discounted Cash Flow  
14 ("DCF") or Capital Asset Pricing Model ("CAPM") to estimate the cost of equity  
15 (or ROE) of NEO.<sup>13</sup> Instead, the Staff Report proposed to "use a new process for  
16 establishing the cost of equity in this case".<sup>14</sup>

17  
18 This so-called new process is to use the average three-year (2016, 2017, and  
19 2018) actual earned return on equity of six publicly traded gas utility holding

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<sup>11</sup> See Staff Report at 16.

<sup>12</sup> Id.

<sup>13</sup> Id.

<sup>14</sup> Id.

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companies selected from the Value Line Natural Gas Utility industry group as its baseline mid-point “comparable equity return” for NEO.<sup>15</sup> Based on a ten percent baseline return on equity, the Staff Report proposed a ROE range of 9.50% to 10.50%.<sup>16</sup> When applying this range of ROE to the adopted capital structure and cost of debt, the resulting range of rate of return would be 7.80% to 8.45% with an imputed mid-point rate of return of 8.13%.<sup>17</sup> A summary of the rate of return recommendations by OCC, Staff Report, and NEO is shown in Table 1.

**Table 1: Summary of Rate of Return Recommendations**

	<b>OCC</b>	<b>Staff Lower Bound</b>	<b>Staff Mid-point</b>	<b>Staff Upper Bound</b>	<b>NEO</b>
<b>Cost of Debt</b>	4.72%	4.72%	4.72%	4.72%	4.72%
<b>Debt Ratio</b>	0.45	0.3553	0.3553	0.3553	0.3553
<b>Return on Equity</b>	9.50%	9.50%	10.00%	10.50%	10.83%
<b>Equity Ratio</b>	0.55	0.6447	0.6447	0.6447	0.6447
<b>Rate of Return</b>	<b>7.35%</b>	7.80%	<b>8.13%</b>	8.45%	<b>8.66%</b>

***Q13. PLEASE SUMMARIZE OCC’S OBJECTIONS REGARDING THE RATE OF RETURN ANALYSIS IN THE STAFF REPORT.***

***A13.*** I do not agree with the Staff Report’s conclusion that the traditional methods of estimating the return on equity (or cost of equity) cannot be applied to NEO in

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<sup>15</sup> The six companies selected by the PUCO Staff are Corning Natural Gas Holding Corp. (CNIG), Spire Inc. (SR), Southwest Gas Holdings Inc. (SWX), RGC Resources Inc. (RGC), Atmos Energy Corp. (ATO), and Chesapeake Utilities Corp. (CPK), Staff Report at 16-17.

<sup>16</sup> See Staff Report at 17.

<sup>17</sup> See Staff Report at 16.  $8.13\% = (7.80\% + 8.45\%) / 2$ .

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1       this proceeding. After all, NEO itself has proposed its return on equity and rate of  
2       return by applying the traditional financial models of CAPM, DCF, Risk  
3       Premium, and Expected Earnings to a proxy group of ten gas company.<sup>18</sup> This  
4       “new” process proposed in the Staff Report that used the actual earned return on  
5       equity as a proxy for required return on equity is conceptually flawed and  
6       incompatible with established regulatory principles and financial theories.

7  
8       In summary, I object to the Staff Report’s use of the capital structure requested by  
9       NEO (OCC Objection 1). I also object to the methodology of using actual earned  
10      return on equity as a proxy for the required return on equity (or cost of equity) and  
11      the resulting ROE of 9.5% to 10.5% recommended in the Staff Report (OCC  
12      Objection 2). Additionally, I object to the recommended range of rate of return of  
13      7.80% to 8.45% (OCC Objection 3), which was derived from an excessively and  
14      unreasonably high range of ROE and an unreasonable capital structure.

15  
16      As a related matter, I object to the lack of recommendation of a reasonable pre-tax  
17      rate of return for capital investments in the case the PUCO approve an  
18      Infrastructure Replacement Program (“IRP) and Rider IRP requested by NEO  
19      (OCC Objection 4). OCC agrees with the Staff Report’s recommendation to  
20      reject NEO’s proposal for an IRP rider.<sup>19</sup> The Staff Report states, however, that if

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<sup>18</sup> See NEO Rate Case, Direct Testimony of Gregory E. Scheig at 3 (January 11, 2019).

<sup>19</sup> See the Direct Testimony of OCC witness Kerry Adkins and OCC’s Objections.

1 the PUCO does approve an IRP rider, the Staff would have certain recommended  
2 changes to NEO's proposal.<sup>20</sup> In my opinion, the PUCO Staff's recommendations  
3 in the Staff Report should also have included recommending a reasonable pre-tax  
4 rate of return if the PUCO decides to establish an IRP rider. Because the Staff  
5 Report does not recommend the approval of Rider IRP, a pre-tax rate of return for  
6 Rider IRP is not needed at this time. Nevertheless, this is one item that should be  
7 included in the Staff's list of potential adjustment and it should be much lower  
8 than the 10.54% (or 10.52%) proposed by NEO.

9  
10 **OCC OBJECTION 1**

11  
12 ***Q14. PLEASE EXPLAIN OCC OBJECTION 1.***

13 ***A14.*** The Staff Report adopted a capital structure of 35.53% debt and 64.47% equity as  
14 requested by NEO in its filing. This proposed capital structure is heavily  
15 weighted toward equity and is quite different from the current capital structure  
16 typically associated with regulated gas utilities. Because the cost of equity is  
17 higher than the cost of long-term debt for a regulated utility, a capital structure  
18 with a higher equity ratio will lead to a higher rate of return than a capital  
19 structure with a lower equity ratio, assuming the cost of debt and cost of equity  
20 are not affected by the level of debt leverage. By adopting this equity-heavy  
21 capital structure for NEO, the Staff Report unreasonably increases, especially

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<sup>20</sup> See Staff Report at 21, Footnote 8.

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1 with the high range of ROE proposed in the Staff Report (9.50% to 10.50%) and  
2 in the NEO Applications (10.83%), the authorized rate of return of NEO for its  
3 gas distribution services, as well as the pre-tax ROR for NEO's Infrastructure  
4 Replacement Program if the IRP is approved. Under this capital structure  
5 proposed by the PUCO Staff, the rates charged to the customers by NEO will be  
6 unreasonable.

7

8 ***Q15. PLEASE EXPLAIN WHY THE CAPITAL STRUCTURE ADOPTED IN THE***  
9 ***STAFF REPORT IS UNREASONABLE FOR THE PUCO TO ADOPT WHEN***  
10 ***SETTING THE RATES THAT CUSTOMERS PAY.***

11 ***A15.*** The adopted capital structure in the Staff Report, which is the same as the capital  
12 structure requested by NEO in its Application, has a much higher equity ratio  
13 (64.47%) in comparison to the equity ratio (likely in the range of 45% to 55%) of  
14 a typical regulated gas utility. For example, based on a summary of the 2018 gas  
15 rate case proceedings nationwide, the average equity ratio of the 43 regulated gas  
16 utilities included in the 2018 gas rate cases summary is 50.09%.<sup>21</sup> This summary  
17 report of 2018 rate case activities is included here as Attachment DJD-4. This  
18 summary report prepared by Regulatory Research Associates of S&P Global  
19 Market Intelligence is a reputable and reliable trade publication and I have used it  
20 and similar publications regularly in my field of work. It is also routinely used by

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<sup>21</sup> See S&P Global Market Intelligence, *RRA Regulatory Focus Major Rate Case Decisions – January - December, 2018* (January 31, 2019) at 14.



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1 the trade associations in their publications. Similarly, for the ten gas companies  
2 included in the proxy group selected by NEO in its rate of return analysis, the  
3 average equity ratio of these companies as of November 1, 2018 was 55.1%.<sup>22</sup>  
4 Both equity ratios are considerably lower than the 64.47% proposed by NEO and  
5 adopted in the Staff Report.

6  
7 Based on my own experience and knowledge, it is generally preferable to use a  
8 capital structure of 50% equity and 50% long-term debt, or a capital structure  
9 similar to that, in setting a reasonable rate of return for a regulated utility. A  
10 capital structure with a very high equity ratio or a very high debt ratio might be  
11 used in setting a rate of return for a regulated utility only under extraordinary  
12 circumstances. NEO was not required by the PUCO to maintain such a high  
13 equity ratio (64.47%) in its capital structure. The Staff Report has not provided  
14 any support that adopting this equity-heavy capital structure for ratemaking  
15 purpose will benefit customers other than noting “it is not uncommon for smaller  
16 utilities to rely on equity capital to fund operations in an effort to reduce financial  
17 risks associated with greater leverage.”<sup>23</sup>

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<sup>22</sup> See NEO Rate Case, Direct Testimony of Gregory E. Scheig, Schedule H.1 (January 11, 2019).

<sup>23</sup> See Staff Report at 16.

1   ***Q16. HAS NEO DEMONSTRATED ITS REQUESTED CAPITAL STRUCTURE IS***  
2       ***REASONABLE FOR PURPOSE OF SETTING A RATE OF RETURN IN***  
3       ***DECIDING RATES THAT NEO'S CUSTOMERS WILL PAY?***

4   ***A16.*** No. NEO has not done so in its filings. NEO's filed testimony did argue that  
5       "given NEO's small size, a higher equity percentage is justified."<sup>24</sup> NEO also  
6       used a regression analysis of the book value equity (as of November 1, 2018) of  
7       ten gas companies of its proxy group to support its requested capital structure of  
8       64.47% equity and 35.53% debt.<sup>25</sup> However, NEO's regression analysis was  
9       based on a small sample of gas companies and the book value of equity of these  
10      companies at a specific point of time. The results of this particular regression  
11      analysis are not robust or reliable in ascertaining the relationship between book  
12      value of equity and equity ratios of regulated gas utilities. The results of this one  
13      analysis cannot be generalized to support the argument that a small regulated  
14      utility is justified to have a higher than typical equity ratio in its capital structure.  
15      My own understanding as an experienced regulatory economist is that a small  
16      regulated utility does not always have a higher equity ratio. A small regulated  
17      utility may not be necessarily riskier than a large regulated utility, and there is no  
18      public policy justification to encourage or require a small regulated utility to have  
19      a higher equity ratio in its capital structure. NEO can decide its own funding  
20      sources based on its own management decision and approval of the regulatory  
21      agencies as needed. But in this proceeding, NEO has not demonstrated that, for

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<sup>24</sup> See NEO Rate Case, Direct Testimony of Scheig at 34 (January 11, 2019).

<sup>25</sup> See NEO Rate Case, Direct Testimony of Scheig at 34 and Schedule H.2 (January 11, 2019).

1           ratemaking purpose, it is reasonable to use such a high equity ratio in setting a  
2           reasonable rate of return.

3

4   ***Q17. HAVE THE STAFF REPORTS IN PRIOR RATE CASES RECOMMENDED***  
5       ***A CAPITAL STRUCTURE THAT WAS DIFFERENT FROM THE ACTUAL***  
6       ***CAPITAL STRUCTURE REQUESTED BY THE UTILITY?***

7   ***A17.*** Yes. The Staff Reports in several prior rate cases proceedings have created or  
8           used a hypothetical or an average capital structure in recommending the ranges of  
9           rate of return. One example is the 2008 gas distribution case of Columbia Gas of  
10          Ohio, Inc. (“Columbia”). The Staff Report in that proceeding created an average  
11          capital structure for Columbia based on a selected group of gas companies in its  
12          rate of return analysis.<sup>26</sup> Specifically, the Staff Report stated:

13

14               The Applicant, Columbia Gas of Ohio, is a wholly-owned subsidiary of  
15               NiSource, Inc., which is a publicly traded, public utility holding company.  
16               Given that the rates established in this case are for gas distribution  
17               services, the Staff is using a capital structure for rate of return  
18               determination that is commensurate with the risk associated with operating  
19               gas distribution services. **A comparable group of publicly traded**  
20               **companies primarily engaged in gas distribution was developed to**  
21               **provide an average capital structure, as well as a cost of equity to be**

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<sup>26</sup> PUCO Case No. 08-0072-GA-AIR et al., Staff Report at 10 (August 21, 2008).

1           **used in the Staffs rate of return recommendation. The capital**  
2           **structure arrived at in this manner is 49.29% long-term debt and**  
3           **50.71% common equity** (emphasis added).  
4

5           In that proceeding, Columbia proposed an actual capital structure of 41.35% debt,  
6           and 58.65% common equity in its Application.<sup>27</sup>  
7

8           Another example is the 2015 electric distribution rate case of Dayton Power and  
9           Light Company (DP&L). The Staff Report in that proceeding created a hypothetical  
10          capital structure in its rate of return analysis.<sup>28</sup> Specifically, the Staff Report  
11          stated:  
12

13           The Applicant is a wholly-owned subsidiary of AES Corporation, which is  
14           a publicly traded public holding company. Staff created a hypothetical  
15           capital structure using SNL peer analysis tools. Staff relied on SNL to  
16           create a list of comparable companies based on the unique position of  
17           DP&L. The peer score analysis tool creates a peer group to a base  
18           company (DP&L) by summing the number of standard deviations each  
19           peer company is from the base company using financial metrics. Staff

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<sup>27</sup> PUCO Case No. 08-0072-GA-AIR et al., Application Schedule D-1a (March 3, 2008).

<sup>28</sup> PUCO Case No. 15-1830-EL-AIR et al., Staff Report at 18 (March 12, 2018).

1           allowed SNL to select the financial metrics to avoid any selection bias.

2           DPL was removed from the group to avoid redundancy.

3           **Staff created a hypothetical capital structure as neither AES nor**

4           **DP&L have capital structures that can reasonably be used in a**

5           **ratemaking proceeding of this nature. The capital structure Staff**

6           **employed was 52.48 percent debt and 47.52 percent equity as shown**

7           **on Staff Schedule D-1** (emphasis added).

8  
9           In that proceeding, DP&L proposed an actual capital structure of 37.80% debt,

10          1.15% preferred stock, and 61.06% common equity as well as an adjusted capital

11          structure of 47.80% debt, 2.20% preferred stock, and 50% common equity.<sup>29</sup>

12  
13          These two Ohio examples demonstrate that the PUCO Staff could have exercised

14          its professional judgement to adjust the capital structure of the regulated utility in

15          a rate case proceeding in order to achieve a fair and reasonable rate of return.

---

<sup>29</sup> PUCO Case No. 15-1830-EL-AIR et al., Application Schedule D-1a and Schedule D-1 (November 30, 2015).

**Q18. IS THE PUCO REQUIRED TO USE THE ACTUAL CAPITAL STRUCTURE  
OF A REGULATED UTILITY IN SETTING A REASONABLE RATE OF  
RETURN THAT CUSTOMERS WILL PAY?**

**A18.** No. I am not aware any such legal requirements or PUCO precedents that the actual capital structure should always be used in setting a reasonable rate of return for a public utility in Ohio. For ratemaking purpose, and as demonstrated in the two Ohio examples I just discussed, the PUCO does retain and can exercise its discretion in adopting a different capital structure that would protect customers from unreasonable rates if the proposed or actual capital structure is not reasonable or clearly not in line with the capital structure of other regulated utilities with comparable business and financial risks.

The capital structure of a regulated utility such as NEO does change over time and the capital structure at a given time may reflect unusual or extraordinary events such as significant gains or write-offs from asset disposition that happened just prior to the determination of the capital structure. This “snapshot” of the capital structure (such as September 30, 2018 in the case of NEO) may or may not accurately or reasonably reflect the normal sources of long-term funding for the operation of the regulated utility. It will not be in the public interest for the PUCO to blindly use the actual capital structure requested by the utility in setting a reasonable rate of return no matter how unusual the capital structure.

**OCC OBJECTION 2**

***Q19. PLEASE EXPLAIN OCC OBJECTION 2.***

***A19.*** As discussed earlier, the Staff Report did not use any established financial models in estimating the required return on equity (or the cost equity) of NEO. Instead, the Staff Report proposed to use the average three-year actual earned return on equity of six publicly traded gas companies as its baseline mid-point “comparable equity return” of ten percent for NEO in this proceeding. Then the Staff recommended a range of ROE of 9.5% to 10.5%.

There are two problems with this return on equity analysis in the Staff Report. First, this methodology of relying on the average actual earned return on equity (calculated from the reported earnings and book value of equity) of the past three years to derive the recommended 10% ROE is conceptually flawed and incompatible with established regulatory principles. The use of actual earned return on equity as a proxy for authorized (or required) return on equity does not comport with the concept of return on equity (or cost of equity) as an opportunity cost to the investor of the regulated utility. Second, the resulting range of ROE derived from this faulty methodology as proposed in the Staff Report is exceedingly high and unreasonable in comparison to the ROE authorized nationwide in recent years. Specifically, the baseline ROE of ten percent, as proposed in the Staff Report, exceeds both the average ROE authorized for gas

1 utilities nationwide in 2018 (9.59%) and in the first three months of 2019  
2 (9.55%). Also, the top of the range of ROE (10.5%) recommended in the Staff  
3 Report is much higher than those ROEs (from 9% to 9.999%) granted by the  
4 PUCO in recent gas and electric distribution rate cases.

5

6 ***Q20. PLEASE EXPLAIN WHY A REQUIRED RETURN ON EQUITY CANNOT***  
7 ***BE DIRECTLY OBSERVED OR CALCULATED FROM THE ACCOUNTING***  
8 ***RECORDS OF REGULATED UTILITIES.***

9 ***A20.*** Based on the regulatory principles outlined above, a required return on equity (or  
10 cost of equity) for a regulated utility is a concept of economic cost (or opportunity  
11 cost), not a concept of accounting cost. In other words, a reasonable rate of return  
12 for a regulated utility is not decided by what the regulated utility has earned in the  
13 past or what other similarly situated regulated utilities have earned in the past. A  
14 reasonable rate of return is decided by what the investors of the regulated utility  
15 can expect to earn from other currently available investment opportunities with  
16 similar or comparable risks.

17

18 Consequently, the setting of a reasonable rate of return must incorporate and  
19 consider market-based and projected information such as stock prices, earnings  
20 projection, dividends projection, and expectation of financial market and  
21 economic conditions. None of these market-based and projected information and  
22 data were identified, analyzed, or discussed in the Staff Report. Also, these types



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1 of market-based and projected information are not typically kept or recorded in  
2 the accounting records of a regulated utility. They are not recorded or reflected in  
3 the reported earnings and book value of equity of a regulated utility. A required  
4 return on equity cannot be directly observed or calculated from the accounting  
5 records of a regulated utilities or a group of utilities. The actual return on equity  
6 that was measured and calculated from a utility's accounting records is not a valid  
7 or reasonable proxy for the required return on equity for a regulated utility. In  
8 this proceeding, the three-year average of earned return on equity of a small group  
9 of gas companies really has nothing to do with what a reasonable required return  
10 on equity should be for NEO.

11

12 ***Q21. HAS THE PUCO USED THE THREE-YEAR AVERAGE OF ACTUAL***  
13 ***EARNED RETURN ON EQUITY OF A PROXY GROUP IN DECIDING THE***  
14 ***RETURN ON EQUITY THAT CUSTOMERS WILL PAY TO A REGULATED***  
15 ***GAS UTILITY?***

16 ***A21.*** No. I am not aware of any such instances in Ohio or in any other jurisdiction.

1   ***Q22. HAVE THE STAFF REPORTS IN PRIOR GAS RATE CASE EVER USED***  
2                   ***THE THREE-YEAR AVERAGE OF ACTUAL EARNED RETURN ON***  
3                   ***EQUITY AS THE RECOMMENDED RETURN ON EQUITY THAT***  
4                   ***CUSTOMERS WILL PAY?***

5   ***A22.*** No. Based on my review of the numerous Staff Reports of rate case proceedings  
6                   in Ohio over the years, I have not found any such instances.

7  
8   ***Q23. IS THE AVERAGE RETURN ON EQUITY GRANTED IN OHIO AND***  
9                   ***OTHER JURISDICTIONS IN RECENT YEARS A VALID STANDARD IN***  
10                  ***EVALUATING THE STAFF REPORT'S RETURN ON EQUITY***  
11                  ***RECOMMENDATION?***

12   ***A23.*** Yes. As discussed earlier, one of the fundamental principles in setting a  
13                   reasonable ROE for a regulated utility is to set it so that an ordinary investor can  
14                   earn a return from investing in the regulated utility comparable to the returns he or  
15                   she would expect to earn from other investments with similar risks. If a  
16                   comparable ROE is authorized by the regulatory agency, the regulated utility has  
17                   an opportunity to attract capital on reasonable terms, to maintain its financial  
18                   integrity, and to have funds available to conduct its normal business of providing  
19                   utility services. In this regard, the average ROE authorized nationwide for  
20                   regulated gas utilities in recent years can be used as a reasonable proxy for the  
21                   current economic cost (or opportunity cost) to an investor (or owner) of NEO. At  
22                   the same time, the average ROE authorized in recent years can also be considered

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1 a useful “yardstick” in determining if a ROE authorized by the PUCO is  
2 reasonable for NEO’s consumers to pay. Some financial analysts have advocated  
3 for the use of the authorized ROEs of comparable utilities in setting a reasonable  
4 ROE for a regulated utility.<sup>30</sup> Therefore, in setting a reasonable ROE for NEO in  
5 this proceeding, the PUCO may properly consider the average of ROEs or rates of  
6 return approved in rate cases for gas utilities in other jurisdictions.

7 Based on the rate case data compiled by Regulatory Research Associates of S&P  
8 Global Market Intelligence, the average ROE granted in 40 gas utility’ rate cases  
9 in 2018 nationwide was 9.59%.<sup>31</sup> See Attachment DJD-4. Similarly, the average  
10 ROE granted in four gas utility rate cases in the first three months of 2019 was  
11 9.55%.<sup>32</sup> See Attachment DJD-5. So, the average ROEs authorized nationwide  
12 for gas utilities in 2018 and 2019 are at the bottom of the range of ROE  
13 recommended for NEO in the Staff Report. A closer examination of the 2018 data  
14 would indicate that most of the ROEs authorized for gas utilities in that year were  
15 at or below ten percent. A breakdown of the ROEs authorized in 2018 nationwide  
16 is shown in Table 2. This is yet another indication that the ROE range of 9.5% to  
17 10.50% recommended in the Staff Report for NEO is excessive and unreasonable.

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<sup>30</sup> PUCO Case No. 12-1682-EL-AIR *et al.*, Supplemental Direct Testimony of Roger A. Morin at 3.

<sup>31</sup> See S&P Global Market Intelligence, *RRA Regulatory Focus Major Rate Case Decisions – January - December 2018* (January 31, 2019) at 7.

<sup>32</sup> See S&P Global Market Intelligence, *RRA Regulatory Focus Major Rate Case Decisions – January – March 2019* (April 11, 2019) at 1, and Table 5 of the summary report (Attachment DJD-5).

**Table 2:  
Breakdown of Authorized ROE in 2018 Gas Rate Cases Nationwide**

Authorized ROE	No. of Case	Percentage of Case
9% or lower	2	5%
9.01% to 9.50%	17	42.5%
9.51% to 10.00%	19	47.5%
10.01% or higher	2	5%
Total	40	100%

Source: Attachment DJD-4.

***Q24. BASED ON THE RETURN ON EQUITY AUTHORIZED OR PENDING IN RECENT OHIO RATE CASE PROCEEDINGS, IS THE RANGE OF RETURN ON EQUITY OF 9.50% TO 10.50% RECOMMENDED IN THE STAFF REPORT REASONABLE FOR CUSTOMERS TO PAY?***

***A24.*** No. Ohio is generally considered by the financial community as a credit-supportive and utility-friendly jurisdiction in recent years and the PUCO has been shown an inclination to authorize higher return on equity and rate of return than the nationwide average. But even by this Ohio standard of generally higher-than-nationwide average ROE, the range of ROE recommended for NEO in the Staff Report is excessive and unreasonable. I have reviewed several recent gas and electric rate cases that are either approved by the PUCO or currently pending before the PUCO.<sup>33</sup> The authorized or pending ROEs of these proceeding are in

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<sup>33</sup> These approved or pending rate cases include: Vectren Rate Case (Case No. 19-0298-GA-AIR et al.), Suburban Rate Case (Case No. 18-1205-GA-AIR et al.), Duke Electric Rate Case (Case No. 17-0032-EL-AIR et al.), and DP&L Rate Case (Case No. 15-1830-EL-AIR et al.).

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the range of 9.79% to 9.999%, well below the top of the range of ROE, 10.50%, recommended in the Staff Report. A summary of the authorized or pending return on equity and rate of return of these Ohio rate cases are summarized in Table 3.

**Table 3:  
Summary of Authorized or Pending ROR and ROE in Recent Ohio Rate Cases**

Utility	Case No.	Return on Equity	Rate of Return	Status
Vectren	18-0298-GA-AIR	9.79%	7.48%	Pending
Suburban	18-1205-GA-AIR	10.25%	7.26%	Pending
Duke Electric	17-0032-EL-AIR	9.84%	7.54%	Approved in 2018
DP&L	15-1830-EL-AIR	9.999%	7.27%	Approved in 2018

**OCC OBJECTION 3**

***Q25. PLEASE EXPLAIN OCC OBJECTION 3.***

***A25.*** The Staff Report recommended a rate of return in the range of 7.80% to 8.45% for NEO. This recommended range of rate of return, even at the bottom of the range of 7.80%, is excessive and unreasonable. There are three reasons why the recommended range of rate of return in the Staff Report is unreasonable and should be rejected by the PUCO. First, this range of ROR is derived from an unreasonable capital structure of 64.47% equity and 35.53% debt. Second, the ROE recommendation in the Staff Report was based on unproven and unreasonable methodologies and the resulting range of unreasonably high ROE of 9.5% to 10.50% that are incompatible with established regulatory principles. Thus, the proposed rate of return in the Staff Report, derived in part from the

1           unreasonably high ROE, would be unreasonably high and would result in NEO's  
2           customers paying unjust and unreasonable rates. Third, the recommended range  
3           of ROR itself, with an imputed mid-point of 8.13%, is excessive and unreasonable  
4           considering the average rate of return authorized for gas utilities nationwide in  
5           2018 and the first three months of 2019 as well as the rate of return authorized or  
6           pending in recent gas and electric rate cases in Ohio.

7

8   ***Q26. HOW DOES THE RANGE OF RATE OF RETURN RECOMMENDED IN***  
9   ***THE STAFF REPORT COMPARE TO THE AVERAGE RATE OF RETURN***  
10   ***GRANTED NATIONWIDE IN RECENT YEARS?***

11   ***A26.*** As discussed earlier, the return on equity (and consequentially the rate of return)  
12           authorized in Ohio and other jurisdictions in recent years can and should be used  
13           in evaluating the reasonableness of the rate of return recommendations in the Staff  
14           Report.

15

16           Based on the rate case data compiled by S&P Global Market Intelligence, the  
17           average rate of return granted in 44 gas utility' rate cases in 2018 nationwide was  
18           7.00%.<sup>34</sup> See Attachment DJD-4. Similarly, the average rate of return granted in  
19           4 gas utility rate cases in the first three months of 2019 was 7.37%.<sup>35</sup> See

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<sup>34</sup> See S&P Global Market Intelligence, *RRA Regulatory Focus Major Rate Case Decisions – January - December 2018* (January 31, 2019) at 7.

<sup>35</sup> See S&P Global Market Intelligence, *RRA Regulatory Focus Major Rate Case Decisions – January – March 2019* (April 11, 2019) at 1.

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Attachment DJD-5. Consequently, the average ROEs authorized nationwide in 2018 and 2019 are much lower than the bottom (7.80%) of the range of rate of return recommended in the Staff Report. There is only one gas utility out of the 44 gas utilities reported in the summary prepared by S&P Global Market Intelligence was granted a rate of return higher than 7.80% in 2018. A breakdown of the rate of return authorized nationwide in 2018 is shown in Table 4. This is an indication that the rate of return range of 7.80% to 8.45% recommended in the Staff Report is excessive and unreasonable.

**Table 4:  
Breakdown of Authorized ROR in 2018 Gas Rate Cases Nationwide**

Authorized ROR	No of Case	Percentage
<b>6% or lower</b>	4	9.1%
<b>6.01% to 7.00%</b>	11	25.0%
<b>7.01% to 7.50%</b>	23	52.3%
<b>7.51% to 7.80%</b>	5	11.4%
<b>7.81% or Higher</b>	1	2.3%
<b>Total</b>	44	100%

Source: Attachment DJD-4.

***Q27. BASED ON THE RATE OF RETURN AUTHORIZED OR PENDING IN RECENT OHIO RATE CASE PROCEEDINGS, IS THE RANGE OF RATE OF RETURN RECOMMENDED IN THE STAFF REPORT REASONABLE FOR CUSTOMERS TO PAY?***

***A27.*** No. The range of rate of return recommended for NEO in the Staff Report cannot be considered as reasonable. As discussed earlier, I have reviewed several recent

1 gas and electric rate cases that are either approved by the PUCO or currently  
2 pending before the PUCO.<sup>36</sup> Specifically, these pending or authorized rate of  
3 returns in these cases range from 7.26% to 7.54%. See Table 3 above. They all  
4 indicated an authorized or pending rate of return much lower than those  
5 recommended in the Staff Report.

6

7 **OCC OBJECTION 4**

8

9 ***Q28. WHAT IS THE STAFF REPORT'S RECOMMENDATION REGARDING***  
10 ***THE PRE-TAX RATE OF RETURN APPLICABLE TO THE CAPITAL***  
11 ***INVESTMENT OF THE INFRASTRUCTURE REPLACEMENT PROGRAM***  
12 ***PROPOSED BY NEO?***

13 ***A28.*** The Staff Report did not make any recommendation regarding the pre-tax rate of  
14 return applicable to capital investments associated with the Infrastructure  
15 Replacement Program (“IRP”) proposed by NEO. This is understandable because  
16 the Staff Report recommended that NEO’s application for the approval of Rider  
17 IRP be denied at this time.<sup>37</sup>

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<sup>36</sup> These approved or pending rate cases include: Vectren Rate Case (Case No. 19-0298-GA-AIR et al.), Suburban Rate Case (Case No. 18-1205-GA-AIR et al.), Duke Electric Rate Case (Case No. 17-0032-EL-AIR et al.), and DP&L Rate Case (Case No. 15-1830-EL-AIR et al.).

<sup>37</sup> See Staff Report at 21.



1 ***Q29. PLEASE EXPLAIN OCC OBJECTION 4.***

2 ***A29.*** Even though the PUCO Staff recommended that the IRP program and Rider IRP  
3 requested by NEO be denied, the Staff Report has provided a preliminary list of  
4 adjustments to Rider IRP and the eligible programs if the PUCO decides to  
5 establish Rider IRP.<sup>38</sup> This list of examples did not include the adjustment to the  
6 pre-tax rate of return requested by NEO to be used in the calculation of Rider IRP.  
7 I believe the Staff Report should include the pre-tax rate of return as an item of  
8 possible adjustment. OCC witness Adkins provides testimony agreeing with the  
9 Staff Report's recommendation to reject NEO's proposal for Rider IRP.

10  
11 **V. THE RATE OF RETURN ANALYSIS OF NEO IS FLAWED AND**  
12 **UNREASONABLE**

13  
14 ***Q30. ARE THE CAPITAL STRUCTURE, RETURN ON EQUITY, AND RATE OF***  
15 ***RETURN REQUESTED BY NEO REASONABLE FOR CUSTOMERS TO***  
16 ***PAY?***

17 ***A30.*** No. They are not reasonable, and they should not be adopted in this proceeding.  
18 First, as discussed earlier in my testimony, NEO has not demonstrated that its  
19 proposed capital structure of 64.47% equity and 35.53% debt was reasonable.  
20 NEO seems want to have additional "Business Risk Adjustment" to inflate its

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<sup>38</sup> Id.

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1 estimated baseline ROE and at the same time to have an equity-heavy capital  
2 structure to further increase its overall rate of return.

3  
4 Second, the return on equity (10.83%) and rate of return (8.66%) requested by  
5 NEO are already exceeding the top of the ROE range (10.50%) and the top of the  
6 ROR range (8.45%) recommended in the Staff Report. Because we have  
7 demonstrated that the ranges of ROE and ROR proposed in the Staff Report are  
8 excessive and unreasonable, the ROE and ROR requested by NEO would also be  
9 considered as excessive and unreasonable.

10

11 ***Q31. PLEASE IDENTIFY SOME OF THE DEFICIENCIES IN***  
12 ***METHODOLOGY, DATA INPUT, AND ADJUSTMENTS EMPLOYED IN***  
13 ***NEO'S RATE OF RETURN ANALYSIS THAT MAKE ITS RESULTS***  
14 ***UNREASONABLE FOR CUSTOMERS TO PAY.***

15 ***A31.*** There are several major deficiencies in the methodology, data input, and  
16 adjustments made in NEO's rate of analysis. They include:

17

18 (1) The risk-free rate of return of 3.38% and forecasted risk-  
19 free rate of return of 3.84% used by NEO in its CAPM and  
20 Empirical CAPM models are out of date and unreasonable.  
21 They do not reflect the current risk-free rate of return as  
22 measured by the current yields on long-term U.S.

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1 Government Securities. A reasonable risk-free rate of  
2 return at this time should be no higher than 3.00%;

3 (2) The equity risk premium of 7.76% to 11.92% used by NEO  
4 in its CAPM and Empirical CAPM models are  
5 unreasonable and not supported by financial theory and  
6 empirical evidence. An equity risk premium of 5.5% to 7%  
7 is more reasonable;

8 (3) The inclusion of the results of the Empirical CAPM is not  
9 needed as it will only inflate the weighted results of the  
10 CAPM analysis, which in turn account for 40% weighting  
11 of the estimation of the baseline ROE of 10.33%;

12 (4) The annualized earnings growth rates (from 7.50% to  
13 10.50%) used in the DCF analysis, even with two outliers  
14 removed, appear too high given the expected earnings  
15 growth and consumption growth of gas utilities in general.  
16 As a result of this unrealistic earnings growth assumption,  
17 the ROE estimated from the DCF is likely to be overstated.  
18 The results of the DCF models account for 35% weighting  
19 of the estimation of the final baseline ROE.

1   ***Q32. DO YOU AGREE WITH THE BUSINESS RISK ADJUSTMENT TO THE***  
2   ***BASELINE RETURN ON EQUITY PROPOSED BY NEO?***

3   ***A32.*** No. The so-called “business risk adjustments” or “size premium” as used by  
4       certain financial analysts, typically refers to the theory that a small regulated  
5       utility should have a higher ROE because it is purportedly riskier to operate a  
6       small regulated utility than to operate a large regulated utility. However, I have  
7       not seen any empirical or theoretical evidence to suggest that operating small gas  
8       utilities is any riskier than operating larger gas utilities in general. NEO’s  
9       proposed “Business Risk Adjustment” is not needed.

10  
11       In this proceeding, it is unreasonable to add an extra 50 to 200 basis points to the  
12       estimated ROE of 10.33% for NEO.<sup>39</sup> The Duff & Phelps’ “Size Premia Study”  
13       cited in NEO’s analysis is a comparison of the long-term annualized total returns  
14       of publicly traded large corporations and small corporations. It is not a study of  
15       the difference in annualized returns between large regulated utilities (or utility  
16       holding companies) and small regulated utilities. The operational and financial  
17       risks of regulated utilities are fundamentally different from those of unregulated  
18       corporations. The business and financial risks of regulated utilities are affected  
19       by many factors other than their size. Based on my experience and knowledge, it  
20       is unreasonable and unnecessary to apply the so-called “size-premium” or

---

<sup>39</sup> See NEO Rate Case, Direct Testimony of Gregory E. Scheig at 33-34 (January 11, 2019).

1       “business risk adjustment” to the return on equity of a small regulated utility such  
2       as NEO.

3

4       In addition, it is my observation that the PUCO Staff or the PUCO has rarely used  
5       or granted the so-called size premium (or business risk adjustments) in setting a  
6       rate of return. There is also no indication that other regulatory agencies generally  
7       consider or grant size-premiums in setting the ROEs of regulated gas utilities.

8

9       **VI. A RATE OF RETURN OF 7.35% IS REASONABLE AND FAIR FOR**  
10       **NEO’S CUSTOMERS AND INVESTORS**

11

12       ***Q33. PLEASE EXPLAIN OCC’S RECOMMENDED CAPITAL STRUCTURE FOR***  
13       ***NEO.***

14       ***A33.*** As discussed earlier, the Staff Report and the NEO’s Application have not  
15       demonstrated that the proposed equity-heavy capital structure of 64.47% equity  
16       and 35.53 debt is reasonable. Based on my analysis, I recommend a capital  
17       structure of 55% equity and 45% debt for setting NEO’s rate of return in this  
18       proceeding. This capital structure is reasonable because it closely matches the  
19       average capital structure of the proxy group of ten gas companies selected by  
20       NEO for its rate of return analysis. This capital structure is also not significantly  
21       different from the average capital structure of the 40 gas utilities with rate cases  
22       decided in 2018 nationwide. The additional 5% weight (from 50% to 55%) given

*Direct Testimony of Daniel J. Duann, Ph.D.  
On Behalf of the Office of the Ohio Consumers' Counsel  
PUCO Case No. 18-1720-GA-AIR, et al.*

1 to common equity is to acknowledge the higher equity ratio of the actual capital  
2 structure of NEO as of date certain. OCC's proposed capital structure of 55%  
3 equity and 45% debt is a fair compromise and it deserves careful consideration by  
4 the PUCO.

5  
6 ***Q34. PLEASE EXPLAIN OCC'S RECOMMENDED RETURN ON EQUITY FOR***  
7 ***NEO.***

8 ***A34.*** Based on the OCC objections discussed above, and my review of the financial  
9 modeling results proposed by NEO, I propose a return on equity of 9.50% for  
10 NEO in this proceeding. This is a reasonable ROE for NEO that can achieve a  
11 proper balance of protecting NEO's customers from paying unreasonable rates as  
12 well as maintaining NEO's financial integrity and allowing NEO's investors the  
13 opportunity to earn a return on its invested capital compatible with current market  
14 conditions and returns available from other investment options with similar risks.

15  
16 ***Q35. PLEASE EXPLAIN OCC'S RECOMMENDED RATE OF RETURN FOR***  
17 ***NEO.***

18 ***A35.*** If OCC's recommended ROE of 9.50% were adopted and applied to the OCC-  
19 proposed capital structure (45% debt and 55% equity) and the cost of debt of  
20 4.72% requested by NEO, the overall rate of return for NEO would be 7.35%.

21  
22 
$$7.35\% = (0.45 \times 4.72\%) + (0.55 \times 9.50\%).$$

1           This 7.35% is OCC's recommended rate of return for NEO in this proceeding.

2

3   ***Q36. PLEASE EXPLAIN OCC'S RECOMMENDED PRE-TAX RATE OF***  
4   ***RETURN FOR RIDER IRP IF IT IS APPROVED BY THE PUCO.***

5   ***A36.*** If the Infrastructure Replacement Program and Rider IRP requested by NEO are  
6       established by the PUCO, a pre-tax rate of return applicable to the calculation of  
7       the revenue requirement of Rider IRP will be needed. I will recommend the pre-  
8       tax rate of return be calculated from the same OCC-proposed capital structure,  
9       ROE, and the tax gross factor of 1.265823 proposed in the Staff Report. The pre-  
10      tax rate of return for Rider IRP as recommended by OCC would be 8.74%.

11

12            $8.74\% = (0.45 \times 4.72\%) + (0.55 \times 9.50\%) \times 1.265823.$

13

14   ***Q37. WHAT WILL BE YOUR RECOMMENDED ANNUAL REVENUE***  
15   ***REQUIREMENT AND REVENUE INCREASE FOR NEO IN THIS***  
16   ***PROCEEDING IF THE OCC-PROPOSED RATE OF RETURN OF 7.35%***  
17   ***WERE ADOPTED?***

18   ***A37.*** Assuming there is no change to the Staff Reports' proposed adjustments to the  
19       rate base as of date certain, Adjusted Operating Income, Gross Revenue  
20       Conversion Factor, and Adjusting Operating Revenue as listed in Schedule A-1, I  
21       would recommend the PUCO approve an annual revenue increase of no more

1           than \$238,716 and an annual revenue requirement of no higher than \$36,190,164.

2           The calculation of the revenue increase and annual revenue requirement is shown  
3           in Attachment DJD-3.

4

5   **VII. CONCLUSION**

6

7   ***Q38. PLEASE SUMMARIZE YOUR RECOMMENDATION.***

8   ***A38.*** I recommend the PUCO adopt OCC's Objections regarding the rate of return  
9           analysis in the Staff Report. In doing so, the PUCO should set an after-tax rate of  
10          return of no higher than 7.35% and a ROE of no higher than 9.50% for NEO. If  
11          the PUCO decides to establish Rider IRP as requested by NEO, then the pre-tax  
12          rate of return applicable to Rider IRP should be no higher than 8.74%.

13

14   ***Q39. DOES THIS CONCLUDE YOUR TESTIMONY?***

15   ***A39.*** Yes. However, I reserve the right to supplement my testimony if additional  
16          testimony is filed, or if new information or data in connection with this  
17          proceeding becomes available.



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**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing *Direct Testimony of Daniel J. Duann, Ph.D. on behalf of the Office of the Ohio Consumers' Counsel* has been served upon those persons listed below via electronic service this 25th day of July 2019.

/s/ Christopher Healey  
Christopher Healey  
Counsel of Record

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**Daniel J. Duann, Ph.D.**  
**List of Testimonies Filed Before PUCO**

1. *Application of The Dayton Power and Light Company for Approval of Its Electric Security Plan*, Case No. 08-1094-EL-SSO (January 26, 2009).
2. *Application of Ohio American Water Company to Increase Its Rates for Water and Sewer Service Provided to Its Entire Service Area*, Case No. 09-391-WS-AIR (January 4, 2010).
3. *Application of Aqua Ohio, Inc. for Authority to Increase its Rates and Charges in its Masury Division*, Case No. 09-560-WW-AIR (February 22, 2010).
4. *Application of Aqua Ohio, Inc. for Authority to increase its Rates and Charges in its Lake Erie Division*, Case No. 09-1044-WW-AIR (June 21, 2010).
5. *In the Matter of the Fuel Adjustment Clauses for Columbus Southern Power Company and AEP Company*, Case Nos. 09-872-EL-FAC and 09-873-EL-FAC (August 16, 2010).
6. *In the Matter of the Application of Columbus Southern Power Company for Approval of an Electric Security Plan; an Amendment to its Corporate Separation Plan; and the Sale or Transfer of Certain Generating Asset (Remand)*, Case Nos. 08-917-EL-SSO et al (June 30, 2011).
7. *In the Matter of the Application of The East Ohio Gas Company d/b/a Dominion East Ohio for Approval of Tariffs to Modify and further Accelerate its Pipeline Infrastructure Replacement Program and to Recover the Associated Costs et al.*, Case Nos. 11-2401-GA-ALT and 08-169-GA-ALT (July 15, 2011).
8. *In the Matter of the Application of Columbus Southern Power Company and AEP Company for Authority to Establish a Standard Service Offer Pursuant to 4928.143, Ohio Rev. Code in the Form of an Electric Security Plan (ESP)*, Case Nos. 11-346-EL-SSO, et al (July 25, 2011).
9. *In the Matter of the Application of Columbus Southern Power Company and AEP Company for Authority to Merge and Related Approval (ESP Stipulation)*, Case Nos. 10-2376-EL-UNC, et al (September 27, 2011).
10. *In the Matter of the 2010 Annual Filing of Columbus Southern Power Company and AEP Company Required by Rule 4901:1-35-10, Ohio Administrative Code*, Case Nos. 11-4571-EL-UNC and 11-4572-EL-UNC (October 12, 2011).
11. *In the Matter of the Application of Ohio American Water Company to Increase Its Rates for Water and Sewer Service Provided to Its Entire Service Area*, Case No. 11-4161-WS-AIR (March 1, 2012).

12. *In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to 4928.143, Ohio Rev. Code in the Form of an Electric Security Plan (Modified ESP), Case Nos. 11-346-EL-SSO, et al (May 4, 2012).*
13. *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company For Authority to Establish a Standard Service Offer Pursuant to R.C. § 4928.143 in the Form Of an Electric Security Plan, Case No. 12-1230-EL-SSO (May 21, 2012).*
14. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates, et al. Case Nos. 12-1682-EL-AIR (February 19, 2013).*
15. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Gas Rates, Case Nos. 12-1685-GA-AIR, et al (February 25, 2013).*
16. *In the Matter of the Application of Dayton Power & Light Company for Authority to Establish a Standard Service Offer in the Form Of an Electric Security Plan Pursuant to R.C. 4928.143, Case No. 12-426-EL-SSO et al. (March 1, 2013).*
17. *In the Matter of the Application of The Dayton Power and Light Company for Authority to Recover of Certain Storm-related Service Restoration Costs, Case Nos. 12-3062-EL-RDR, et al. (January 31, 2014).*
18. *In the Matter of the Application of The Dayton Power and Light Company for Authority to Recover of Certain Storm-related Service Restoration Costs, Case Nos. 12-3062-EL-RDR, et al. (May 23, 2014).*
19. *In the Matter of the Application of Aqua Ohio, Inc. to Increase Its Rates and Charges for Its Waterworks Service, Case No. 13-2124-WW-AIR (August 4, 2014).*
20. *In the Matter of the Application Seeking Approval of AEP Company's Proposal to Enter into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Agreement Ride, Case No. 14-1693-EL-RDR, et al. (September 11, 2015).*
21. *In the matter of the Application of Duke Energy Ohio, Inc. for Approval of an Alternative Rate Plan Pursuant to R.C. 4929.05, Revised Code, for an Accelerated Service Line Replacement Program, Case No. 14-1622-GA-ALT (November 6, 2015).*

22. *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Establish a Standard Service Offer Pursuant to R.C. 4928.141 in the Form of an Electric Security Plan*, Case No. 14-1297-EL-SSO (June 22, 2016).
23. *In the Matter of the Application of Ohio Power Company for Administration of the Significantly Excessive Earnings Test for 2014 under Section 4928.143 (F), Revised Code, and Rule 4901:1-35-10, Ohio Administrative Code*, Case No. 16-1105-El-UNC (August 15, 2016).
24. *In the Matter of the Application of Ohio Power Company for Administration of the Significantly Excessive Earnings Test for 2014 under Section 4928.143 (F), Revised Code, and Rule 4901:1-35-10, Ohio Administrative Code*, Case No. 16-1105-El-UNC (September 19, 2016).
25. *In the Matter of the Application of Aqua Ohio, Inc. for Authority to Increase Its Rates and Charges for Its Waterworks Service*. Case No. 16-0997-WW-AIR (December 19, 2016).
26. *In the Matter of the Application of Ohio Power Company for Administration of the Significantly Excessive Earnings Test for 2016 Under Section 4928.143(F), Revised Code, and Rule 4901:1-35-10, Ohio Administrative Code*, Case No. 17-1230-EL-UNC (January 12, 2018).
27. *In the Matter of the Annual Application of Duke Energy Ohio, Inc., for an Adjustment to Rider AMRP Rates*. Case No. 17-2318-GA-AIR (April 5, 2018).
28. *In the Matter of the Application of the Dayton Power and Light Company for an Increase in Electric Distribution Rates*. Case No. 15-1380-EL-AIR (April 11, 2018).
29. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Distribution Rates*. Case No. 17-0032-EL-AIR et al., (June 25, 2018).

**Selected Publications of Daniel J. Duann, Ph.D.**

**Journal Articles**

*Regulation: The Cato Review of Business & Government*, "Turning up the Heat in the Natural Gas Industry," Vol. 19, 1996, (with Kenneth W. Costello).

*Managerial and Decision Economics*, "Designing a Preferred Bidding Procedure for Securing Electric Generating Capacity," Vol. 12, 1991.

*The Journal of Energy and Development*, "Direct Gas Purchases by Local Distribution Companies: Supply Reliability and Cost Implications," Vol. 14, 1989.

*Public Utilities Fortnightly*, "Alternative Searching and Maximum Benefit in Electric Least-Cost Planning," December 21, 1989.

**Research Reports and Presentations**

The National Regulatory Research Institute, **Pricing Local Distribution Services in A Competitive Market**, 1995.

Ninth NARUC Biennial Regulatory Information Conference, Ohio State University, **The Unbundling and Restructuring of Local Distribution Services in the Post-636 Gas Market**, 1994.

The National Regulatory Research Institute, **A Survey of Recent State Initiatives on EPACT and FERC Order 636**, 1994 (with Belle Chen).

The National Regulatory Research Institute, **Restructuring Local Distribution Services: Possibilities and Limitations**, 1994.

The National Regulatory Research Institute, **The FERC Restructuring Rule: Implications for Local Distribution Companies and State Public Utilities Commissions**, 1993.

The National Regulatory Research Institute, **A Synopsis of the Energy Policy Act of 1992: New Tasks for State Public Utility Commissions**, 1993.

International Symposium on Energy, Environment & Information Management, Argonne National Laboratory, **Natural Gas Vehicles: Barriers, Potentials, and Government Policies**, 1992.

The National Regulatory Research Institute, **Natural Gas Vehicles and the Role of State**

**Public Service Commissions**, 1992 (with Youssef Hegazy).

The National Regulatory Research Institute, **Incentive Regulation for Local Gas Distribution Companies under Changing Industry Structure**, 1991 (with Mohammad Harunuzzaman, Kenneth W. Costello, and Sung-Bong Cho).

The National Regulatory Research Institute, **Discussion Papers on Competitive Bidding And Transmission Access and Pricing issues in the Context of Integrated Resource Planning**, 1990 (with Robert E. Bums, Kenneth Rose, Kevin Kelly, and Narayan Rau).

The National Regulatory Research Institute, **Gas Storage: Strategy, Regulation, and Some Competitive Implications**, 1990 (with Peter A. Nagler, Mohammad Harunuzzaman, and Govindarajan Iyyuni).

The National Regulatory Research Institute, **State Gas Transportation Policies: An Evaluation of Approaches**, 1989 (with Robert E. Bums and Peter A. Nagler).

The National Regulatory Research Institute, **Direct Gas Purchases by Gas Distribution Companies: Supply Reliability and Cost Implications**, 1989, (with Robert E. Bums and Peter A. Nagler).

The National Regulatory Research Institute, **Competitive Bidding for Electric Generating Capacity: Application and Implementation**, 1988 (with Robert E. Bums, Douglas N. Jones, and Mark Eifert).

**NORTHEAST OHIO NATURAL GAS CORP.**  
**CASE NO. 18-1720-GA-AIR**  
**OVERALL FINANCIAL SUMMARY**  
**FOR THE TWELVE MONTHS ENDED JUNE 30, 2019**

Schedule A-1  
Page 1 of 1

LINE NO (A)	DESCRIPTION (B)	SUPPORTING SCHEDULE REFERENCE (C)	COMPANY PROPOSED AMOUNT (D)	STAFF		OCC PROPOSED AMOUNT (G)
				LOWER BOUND (E)	UPPER BOUND (F)	
1	Rate Base as of Date Certain	B-1	\$ 47,659,758	45,879,311	\$ 45,879,311	\$ 45,879,311
2	Adjusted Operating Income	C-1	1,341,755	3,183,545	3,183,545	3,183,545
3	Rate of Return Earned (2 / 1)		2.82%	6.94%	6.94%	6.94%
4	Rate of Return Requested	D-1	8.66%	7.80%	8.45%	7.35%
5	Required Operating Income (1 x 4)		4,127,335	3,578,586	3,876,802	3,372,129
6	Income Deficiency (5 - 2)		2,785,580	395,041	693,257	188,584
7	Gross Revenue Conversion Factor	A-2	1.265823	1.265823	1.265823	1.265823
8	Revenue Increase Required (6 x 7)		3,526,053	500,052	877,542	238,716
9	Revenue Increase Requested	E-4	3,526,053	500,052	877,542	238,716
10	Adjusted Operating Revenue	C-1	34,406,306	35,951,448	35,951,448	35,951,448
11	Revenue Requirements (9 + 10)		37,932,359	36,451,500	36,828,990	36,190,164
12	Increase Over Current Revenue (9 / 10)		10.25%	1.39%	2.44%	0.66%
				Midpoint	688,797	238,716

January 31, 2019

spglobal.com/marketintelligence

# RRA Regulatory Focus

## Major Rate Case Decisions – January – December 2018

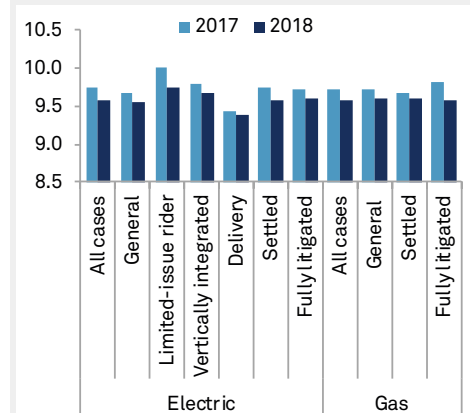
Despite a rising interest rate environment and increased volatility in financial markets in the U.S., the equity returns authorized energy utilities nationwide continued to fall in 2018. Based on data gathered by Regulatory Research Associates, a group within S&P Global Market Intelligence, the average ROE authorized electric utilities was 9.59% in rate cases decided during 2018, somewhat below the 9.74% average for cases decided in 2017. There were 48 electric ROE determinations in 2018 versus 53 in 2017. This data includes several limited-issue rider cases. Excluding these cases from the data, the average authorized ROE was 9.55% in rate cases decided in 2018, somewhat below the 9.68% average in 2017. The difference between the ROE averages including rider cases and those excluding the rider cases is largely driven by ROE premiums of up to 200 basis points approved by the Virginia State Corporation Commission in riders related to certain generation projects (see the [Virginia Commission Profile](#)).

The average ROE authorized gas utilities was also 9.59% in cases decided during 2018 versus 9.72% in 2017. There were 40 gas cases that included an ROE determination in 2018, versus 24 in 2017. The 2017 data includes an 11.88% ROE approved for an Alaska utility that was more than 130 basis points above the next-highest ROE for a gas utility that year. Absent this “outlier,” the 2017 gas ROE average is 9.63%.

In 2018, the median ROE authorized in all electric utility rate cases was 9.57%, largely in line with the 9.60% median observed in 2017. For gas utilities, the median authorized ROE in cases decided in 2018 was 9.60%, equal to the 9.60% in 2017.

From a longer-term perspective, interest rates, as measured by the 30-year U.S. Treasury bond yield, fell almost steadily from the early 1980s until 2015 or so, placing downward pressure on authorized ROEs. Even though the decline has been less dramatic in the period since 1990, average authorized ROEs fell below 10% for gas utilities in 2011 and for electric utilities in 2014. While the U.S. Federal Reserve has begun to unwind its monetary policy and raise interest rates, authorized ROEs have continued to fall modestly.

### Authorized return on equity (%) Dashboard



Electric	2017	2018	
All cases	9.74	9.59	▼
General rate cases	9.68	9.55	▼
Limited-issue rider cases	10.01	9.74	▼
Vertically integrated cases	9.80	9.68	▼
Delivery cases	9.43	9.38	▼
Settled cases	9.75	9.57	▼
Fully litigated cases	9.73	9.61	▼
Gas	2017	2018	
All cases	9.72	9.59	▼
General rate cases	9.72	9.60	▼
Settled cases	9.68	9.60	▼
Fully litigated cases	9.82	9.59	▼
U.S. Treasury	2017	2018	
30-Year Bond Yield	2.89	3.11	▲

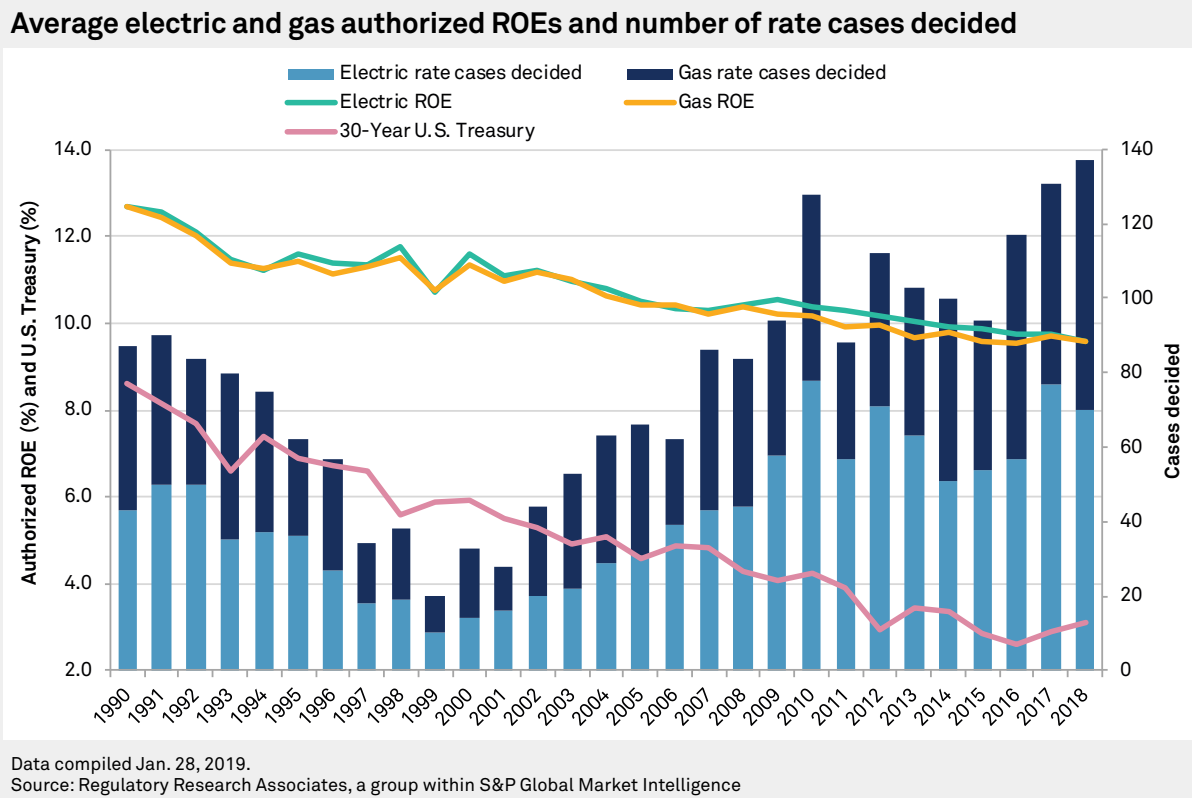
Data compiled Jan. 28, 2019.  
 Source: Regulatory Research Associates, a group within S&P Global Market Intelligence

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 Principal Analyst

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Rate case activity has been brisk with almost 140 cases decided in 2018, slightly above the level in 2017. In fact, since 2010 rate case activity has been robust, with 100 or more cases adjudicated in seven of the last nine calendar years. This count includes electric and gas cases where no ROEs have been specified; however, withdrawn cases are not included in this count.

Increased costs associated with environmental compliance, generation and delivery infrastructure upgrades and expansion, renewable generation mandates, storm and disaster recovery, cybersecurity and employee benefits argue for the continuation of an active rate case agenda over the next few years. In addition, the need to address the impacts of the 2017 federal tax reform has caused rate case agendas to be more active than previously expected.

In addition, rising interest rates could also contribute to increased rate case activity. As the Federal Reserve moves forward with its policy initiated in 2015 to gradually raise the federal funds rate, utilities will face higher capital costs and need to initiate rate cases to reflect these higher capital costs in rates.

So far, authorized ROEs have continued to decline despite increases in interest rates in 2017 and 2018. The Federal Reserve increased the federal funds rate three times in 2017 and four more times in 2018, including the most recent change in December 2018. At that time, policymakers signaled that two more hikes are likely in 2019. However, recent commentary from Federal Reserve Chairman Jerome Powell indicates a willingness to be “patient” about hikes in 2019, with the course of policy to be dependent on data and market conditions. However, it is important to note that increases in the fed funds rate do not necessarily move in lockstep with longer-term treasuries. Thus far in 2019, the yield on the 30-year Treasury bond has decreased somewhat as the recent U.S. government shutdown and trade concerns have stoked fears of slower economic growth.

Similarly, authorized ROEs do not move in lockstep with interest rates, and it may be some time before a noticeable change in average authorized ROEs is discernible. Aside from the fact that the normal process of filing and completing rate cases takes time, intervenors continue to argue that factors such as limited-issue riders and decoupling mechanisms reduce risk and warrant lower authorized ROEs. In addition, anecdotally, RRA has observed instances where the company has argued for a higher ROE authorization based on the changes in broader interest rates, and the commission has found that the prevailing change in interest rates was not significant enough to warrant a specific adjustment to the authorized ROE.

## Capital structure trends

To offset the negative impact of federal tax reform, many utilities in 2018 sought higher equity ratios, and the authorized equity ratios adopted by utility commissions were modestly higher than the levels observed in 2017. The average authorized equity ratio for electric utility cases nationwide was 48.95% in 2018, versus 48.90% in 2017. The average allowed equity ratio for gas utilities nationwide was 50.09% in 2018, versus 49.88% in 2017.

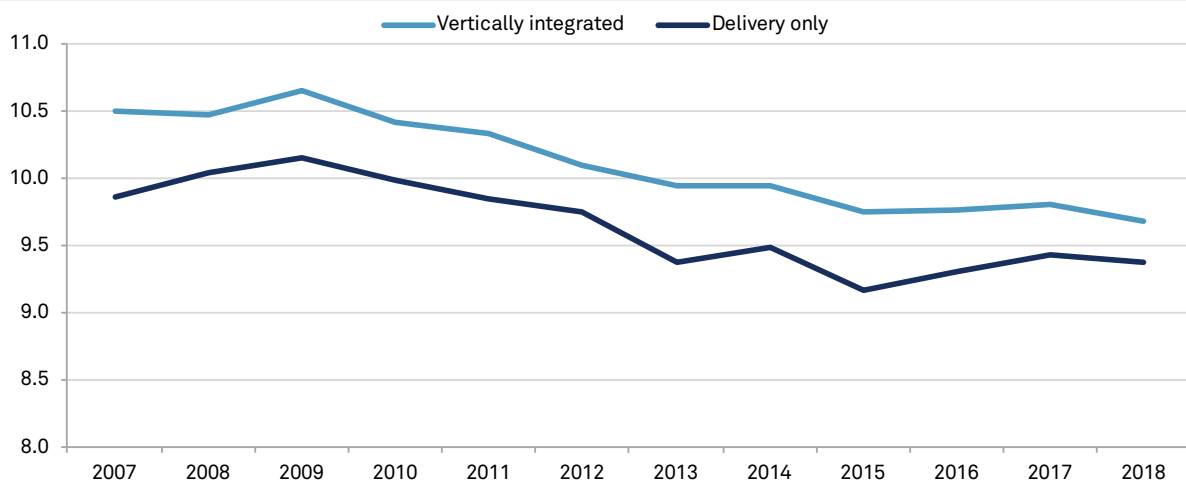
The aforementioned averages include allowed equity ratios adopted by utility commissions in Arkansas, Florida, Indiana and Michigan — jurisdictions that authorize capital structures that include cost-free items or tax credit balances. Excluding these jurisdictions, the average authorized equity ratio for electric utilities nationwide was 50.53% in cases decided during 2018 versus 50.02% in 2017. By comparison, for gas utilities, the average allowed equity ratio was 51.47% in 2018 versus 51.13% in 2017.

Taking a longer-term view, equity ratios have generally increased over the last 15 years — the average equity ratio approved in electric rate cases decided during 2004 was 46.95%, while the average for gas utilities was 45.81%. Many commissions began approving more equity-rich capital structures in the wake of the 2008 financial crisis.

## A more granular look at ROE trends

The discussion thus far has looked broadly at trends in authorized ROEs; the sections that follow provide a more granular view based upon the types of proceedings/decisions in which these ROEs were established.

**Average authorized electric ROEs (%)**



Data compiled Jan. 28, 2019.

Source: Regulatory Research Associates, a group within S&P Global Market Intelligence

RRA has observed that there can be significant differences between the ROE averages from one subcategory of cases to another.

As a result of electric industry restructuring, certain states unbundled electric rates and implemented retail competition for generation. Commissions in those states now have jurisdiction only over the revenue requirement and return parameters for delivery operations.

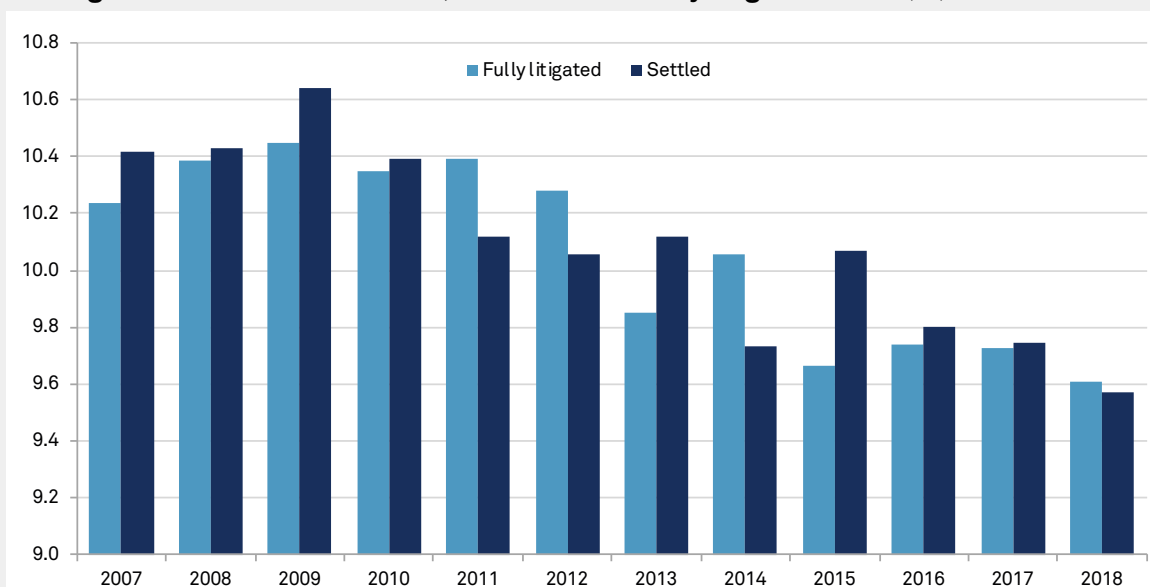
Comparing electric vertically integrated cases versus delivery-only proceedings over the past 12 years, RRA finds that the annual average authorized ROEs in vertically integrated cases typically are about 30 to 65 basis points higher than in delivery-only cases, arguably reflecting the increased risk associated with ownership and operation of generation assets.

Based on rate cases concluded in 2018, the industry average ROE for vertically integrated electric utilities was 9.68%, versus 9.8% for cases decided in 2017. For electric distribution-only utilities, the industry average ROE authorized in 2018 was 9.38% versus 9.43% in 2017.

Settlements have frequently been used to resolve rate cases over the last several years, and in many cases, these settlements are “black box” in nature and do not specify the ROE and other typical rate case parameters underlying the stipulated rate change. However, some states preclude this type of treatment, and so, settlements must specify these values if not the specific adjustments from which these values were derived.

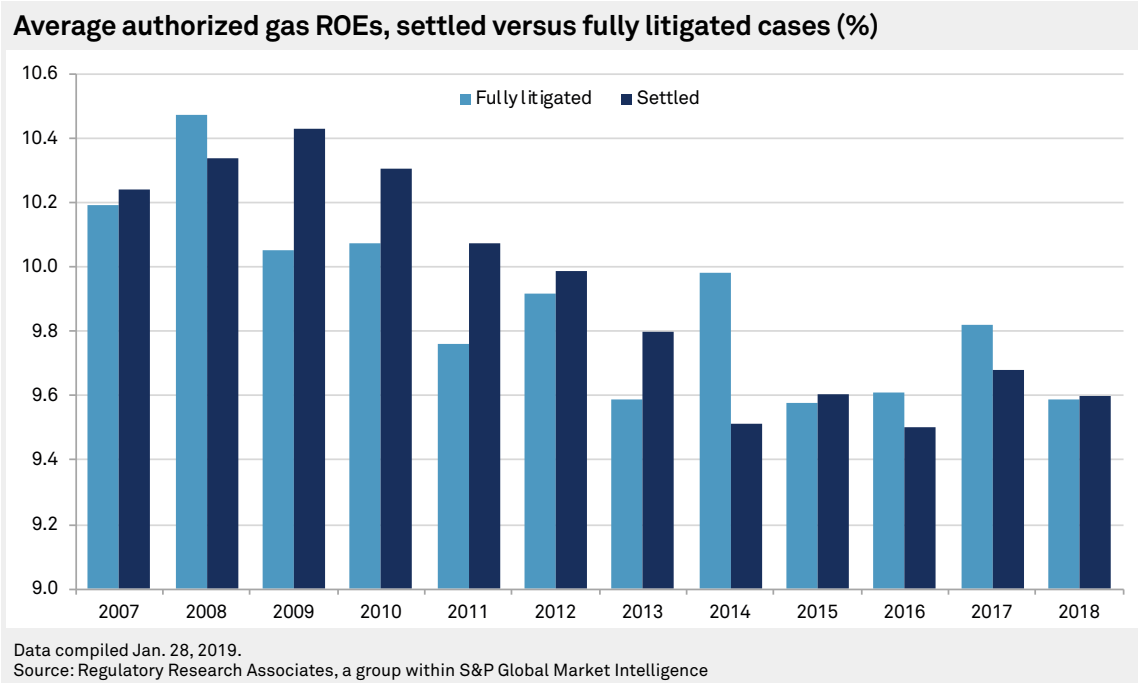
For both electric and gas cases, RRA has found no discernible pattern in the average authorized ROEs in cases that were settled versus those that were fully litigated. In some years, the average authorized ROE was higher for fully litigated cases, in others, it was higher for settled cases, and in a handful of years, the authorized ROE was similar for both fully litigated and settled cases.

**Average authorized electric ROEs, settled versus fully litigated cases (%)**



Data compiled Jan. 28, 2019.

Source: Regulatory Research Associates, a group within S&P Global Market Intelligence



Over the last several years, the annual average authorized ROEs in electric cases that involve limited-issue riders were typically meaningfully higher than those approved in general rate cases, driven by the ROE premiums authorized in Virginia. Limited-issue rider cases in which a separate ROE is determined have had limited use in the gas industry, as most of the gas riders rely on ROEs approved in a previous base rate case.

The table on page 7 shows the average ROE authorized in major electric and gas rate decisions annually since 1990 and by quarter since 2014, followed by the number of observations in each period. The tables on page 8 indicate the composite electric and gas industry data for all major cases, summarized annually since 2004 and by quarter for the past six quarters.

Included in the tables beginning on page 9 of this report are comparisons since 2007 of average authorized ROEs for settled versus fully litigated cases, general rate cases versus limited issue rider proceedings and vertically integrated cases versus delivery-only cases.

The individual electric and gas cases decided in 2018 are listed starting from page 11, with the decision date shown first, followed by the company name, the abbreviation for the state issuing the decision, the authorized rate of return, the ROE and the percentage of common equity in the adopted capital structure. Next, RRA indicates the month and year in which the adopted test year ended, whether the commission utilized an average or a year-end rate base and the amount of the permanent rate change authorized. The dollar amounts represent the permanent rate change ordered at the time decisions were rendered. Fuel adjustment clause rate changes are not reflected in this study.

The simple mean is utilized for the return averages. In addition, the average equity returns indicated in this report reflect the ROEs approved in cases that were decided during the specified time periods and are not necessarily representative of either the average currently authorized ROEs for utilities industrywide or the returns actually earned by the utilities.

The table and graph below track the average and median equity return authorized for all electric and gas rate cases combined by year for the last 29 years. As the table indicates, since 1990 authorized ROEs have generally trended downward, reflecting the significant decline in interest rates and capital costs that has occurred over this time frame. The combined average and median equity returns authorized for electric and gas utilities in each of the years 1990 through 2018 and the number of observations for each year are presented in the accompanying tables.

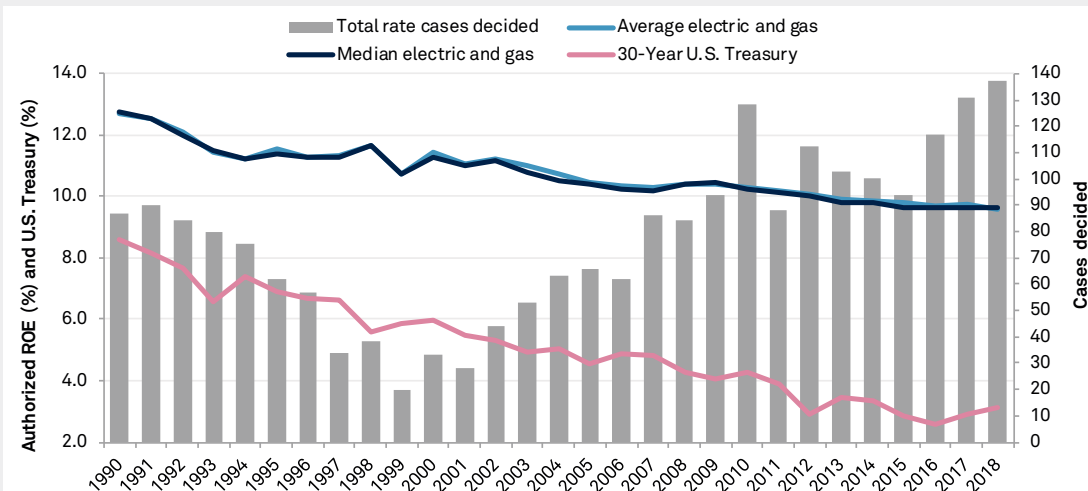
Please note: In an effort to align data presented in this report with data available in S&P Global Market Intelligence's online database, earlier historical data provided in previous reports may not match historical data in this report due to certain differences in presentation, including the treatment of cases that were withdrawn or dismissed.

**Composite electric and gas annual authorized ROEs:  
1990 — 2018**

Year	Average ROE (%)	Median ROE (%)	No. of Observations	Year	Average ROE (%)	Median ROE (%)	No. of Observations
1990	12.69	12.75	71	2005	10.46	10.40	50
1991	12.50	12.50	73	2006	10.35	10.25	41
1992	12.06	12.00	73	2007	10.26	10.20	73
1993	11.40	11.50	68	2008	10.40	10.39	69
1994	11.23	11.22	52	2009	10.39	10.43	70
1995	11.53	11.38	41	2010	10.28	10.22	100
1996	11.26	11.25	35	2011	10.19	10.10	58
1997	11.31	11.28	22	2012	10.09	10.00	93
1998	11.64	11.65	20	2013	9.92	9.80	70
1999	10.73	10.70	12	2014	9.86	9.78	64
2000	11.44	11.25	22	2015	9.76	9.65	46
2001	11.04	11.00	20	2016	9.68	9.60	68
2002	11.19	11.16	33	2017	9.73	9.60	77
2003	10.98	10.75	45	2018	9.59	9.60	88
2004	10.72	10.50	43				

Data compiled Jan. 28, 2019

Source: Regulatory Research Associates, a group within S&P Global Market Intelligence

**Composite electric and gas authorized ROEs and number of rate cases**


Data compiled Jan. 28, 2019.

Source: Regulatory Research Associates, a group within S&P Global Market Intelligence

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**ROEs authorized January 1990 - December 2018**

Year	Period	Electric utilities			Gas utilities		
		Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
1990	Full year	12.70	12.77	38	12.68	12.75	33
1991	Full year	12.54	12.50	42	12.45	12.50	31
1992	Full year	12.09	12.00	45	12.02	12.00	28
1993	Full year	11.46	11.50	28	11.37	11.50	40
1994	Full year	11.21	11.13	28	11.24	11.27	24
1995	Full year	11.58	11.45	28	11.44	11.30	13
1996	Full year	11.40	11.25	18	11.12	11.25	17
1997	Full year	11.33	11.58	10	11.30	11.25	12
1998	Full year	11.77	12.00	10	11.51	11.40	10
1999	Full year	10.72	10.75	6	10.74	10.65	6
2000	Full year	11.58	11.50	9	11.34	11.16	13
2001	Full year	11.07	11.00	15	10.96	11.00	5
2002	Full year	11.21	11.28	14	11.17	11.00	19
2003	Full year	10.96	10.75	20	10.99	11.00	25
2004	Full year	10.81	10.70	21	10.63	10.50	22
2005	Full year	10.51	10.35	24	10.41	10.40	26
2006	Full year	10.32	10.23	26	10.40	10.50	15
2007	Full year	10.30	10.20	38	10.22	10.20	35
2008	Full year	10.41	10.30	37	10.39	10.45	32
2009	Full year	10.52	10.50	40	10.22	10.26	30
2010	Full year	10.37	10.30	61	10.15	10.10	39
2011	Full year	10.29	10.17	42	9.92	10.03	16
2012	Full year	10.17	10.08	58	9.94	10.00	35
2013	Full year	10.03	9.95	49	9.68	9.72	21
	1st quarter	10.23	9.86	8	9.54	9.60	6
	2nd quarter	9.83	9.70	5	9.84	9.95	8
	3rd quarter	9.87	9.78	12	9.45	9.33	6
	4th quarter	9.78	9.80	13	10.28	10.20	6
<b>2014</b>	<b>Full year</b>	<b>9.91</b>	<b>9.78</b>	<b>38</b>	<b>9.78</b>	<b>9.78</b>	<b>26</b>
	1st quarter	10.37	9.83	9	9.47	9.05	3
	2nd quarter	9.73	9.60	7	9.43	9.50	3
	3rd quarter	9.40	9.40	2	9.75	9.75	1
	4th quarter	9.62	9.55	12	9.68	9.75	9
<b>2015</b>	<b>Full year</b>	<b>9.85</b>	<b>9.65</b>	<b>30</b>	<b>9.60</b>	<b>9.68</b>	<b>16</b>
	1st quarter	10.29	10.50	9	9.48	9.50	6
	2nd quarter	9.60	9.60	7	9.42	9.52	6
	3rd quarter	9.76	9.80	8	9.47	9.50	4
	4th quarter	9.57	9.58	18	9.68	9.73	10
<b>2016</b>	<b>Full year</b>	<b>9.77</b>	<b>9.75</b>	<b>42</b>	<b>9.54</b>	<b>9.50</b>	<b>26</b>
	1st quarter	9.87	9.60	15	9.60	9.25	3
	2nd quarter	9.63	9.50	14	9.47	9.60	7
	3rd quarter	9.66	9.60	5	10.14	9.90	6
	4th quarter	9.74	9.60	19	9.68	9.55	8
<b>2017</b>	<b>Full year</b>	<b>9.74</b>	<b>9.60</b>	<b>53</b>	<b>9.72</b>	<b>9.60</b>	<b>24</b>
	1st quarter	9.75	9.90	13	9.68	9.80	6
	2nd quarter	9.54	9.50	13	9.43	9.50	7
	3rd quarter	9.63	9.70	11	9.69	9.60	13
	4th quarter	9.42	9.50	11	9.55	9.60	15
<b>2018</b>	<b>Full year</b>	<b>9.59</b>	<b>9.57</b>	<b>48</b>	<b>9.59</b>	<b>9.60</b>	<b>40</b>

Data compiled Jan. 28, 2019.

Source: Regulatory Research Associates, an offering of S&amp;P Global Market Intelligence

**Electric utilities — summary table**

	Period	ROR (%)	Number of observations	ROE (%)	Number of observations	Common equity to total capital (%)	Number of observations	Rate change amount (\$M)	Number of observations
2004	Full year	8.71	20	10.81	21	46.96	19	1,806.3	29
2005	Full year	8.44	23	10.51	24	47.34	23	936.1	31
2006	Full year	8.32	26	10.32	26	48.54	25	1,318.1	39
2007	Full year	8.18	37	10.30	38	47.88	36	1,405.7	43
2008	Full year	8.21	39	10.41	37	47.94	36	2,823.2	44
2009	Full year	8.24	40	10.52	40	48.57	39	4,191.7	58
2010	Full year	8.01	62	10.37	61	48.63	57	4,921.9	78
2011	Full year	8.00	43	10.29	42	48.26	42	2,595.1	56
2012	Full year	7.95	51	10.17	58	50.69	52	3,080.7	69
2013	Full year	7.66	45	10.03	49	49.25	43	3,328.6	61
2014	Full year	7.60	32	9.91	38	50.28	35	2,053.7	51
2015	Full year	7.38	35	9.85	30	49.54	30	1,891.5	52
2016	Full year	7.28	41	9.77	42	48.91	41	2,332.1	57
	1st quarter	6.97	15	9.87	15	47.95	15	1,028.3	24
	2nd quarter	7.11	9	9.63	14	48.77	9	597.0	19
	3rd quarter	7.43	5	9.66	5	49.63	5	558.6	10
	4th quarter	7.32	19	9.74	19	49.51	19	511.7	24
<b>2017</b>	<b>Full year</b>	<b>7.18</b>	<b>48</b>	<b>9.74</b>	<b>53</b>	<b>48.90</b>	<b>48</b>	<b>2,695.6</b>	<b>77</b>
	1st quarter	6.89	13	9.75	13	48.89	13	592.6	14
	2nd quarter	6.78	13	9.54	13	47.94	13	372.4	18
	3rd quarter	7.10	11	9.63	11	51.15	11	268.0	13
	4th quarter	6.81	12	9.42	11	48.12	12	643.0	22
<b>2018</b>	<b>Full year</b>	<b>6.89</b>	<b>49</b>	<b>9.59</b>	<b>48</b>	<b>48.95</b>	<b>49</b>	<b>1,876.0</b>	<b>67</b>

**Gas utilities — summary table**

	Period	ROR (%)	Number of observations	ROE (%)	Number of observations	Common equity to total capital (%)	Number of observations	Rate change amount (\$M)	Number of observations
2004	Full year	8.51	23	10.63	22	45.81	22	306.0	33
2005	Full year	8.24	29	10.41	26	48.40	24	465.4	35
2006	Full year	8.44	17	10.40	15	47.24	16	392.5	23
2007	Full year	8.11	31	10.22	35	48.47	28	645.3	43
2008	Full year	8.49	33	10.39	32	50.35	32	700.0	40
2009	Full year	8.15	29	10.22	30	48.49	29	438.6	36
2010	Full year	7.99	40	10.15	39	48.70	40	776.5	50
2011	Full year	8.09	18	9.92	16	52.49	14	367.0	31
2012	Full year	7.98	30	9.94	35	51.13	32	264.0	41
2013	Full year	7.43	21	9.68	21	50.60	20	498.7	40
2014	Full year	7.65	27	9.78	26	51.11	28	544.2	48
2015	Full year	7.34	16	9.60	16	49.93	16	494.1	40
2016	Full year	7.08	28	9.54	26	50.06	26	1,263.8	59
	1st quarter	7.20	2	9.60	3	51.57	3	71.0	9
	2nd quarter	7.27	5	9.47	7	49.15	5	85.2	13
	3rd quarter	7.07	8	10.14	6	46.58	7	128.6	17
	4th quarter	7.43	9	9.68	8	52.30	9	125.8	15
<b>2017</b>	<b>Full year</b>	<b>7.26</b>	<b>24</b>	<b>9.72</b>	<b>24</b>	<b>49.88</b>	<b>24</b>	<b>410.7</b>	<b>54</b>
	1st quarter	7.14	5	9.68	6	51.05	6	198.0	9
	2nd quarter	7.08	7	9.43	7	50.83	6	73.8	11
	3rd quarter	6.86	15	9.69	13	48.55	15	280.8	22
	4th quarter	7.05	17	9.55	15	50.89	16	384.9	24
<b>2018</b>	<b>Full year</b>	<b>7.00</b>	<b>44</b>	<b>9.59</b>	<b>40</b>	<b>50.09</b>	<b>43</b>	<b>937.6</b>	<b>66</b>

Data compiled Jan. 28, 2019

Source: Regulatory Research Associates, a group within S&amp;P Global Market Intelligence

**Electric authorized ROEs: 2007 - 2018**

Settled versus fully litigated cases

Year	All cases			Settled cases			Fully litigated cases		
	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
2007	10.30	10.20	38	10.42	10.33	14	10.23	10.15	24
2008	10.41	10.30	37	10.43	10.25	17	10.39	10.54	20
2009	10.52	10.50	40	10.64	10.62	16	10.45	10.50	24
2010	10.37	10.30	61	10.39	10.30	34	10.35	10.10	27
2011	10.29	10.17	42	10.12	10.07	16	10.39	10.25	26
2012	10.17	10.08	58	10.06	10.00	29	10.28	10.25	29
2013	10.03	9.95	49	10.12	9.98	32	9.85	9.75	17
2014	9.91	9.78	38	9.73	9.75	17	10.05	9.83	21
2015	9.85	9.65	30	10.07	9.72	14	9.66	9.62	16
2016	9.77	9.75	42	9.80	9.85	17	9.74	9.60	25
2017	9.74	9.60	53	9.75	9.60	29	9.73	9.56	24
2018	9.59	9.57	48	9.57	9.63	26	9.61	9.43	22

**General rate cases versus limited issue riders**

Year	All cases			General rate cases			Limited issue riders		
	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
2007	10.30	10.20	38	10.32	10.23	36	9.90	9.90	1
2008	10.41	10.30	37	10.37	10.30	35	11.11	11.11	2
2009	10.52	10.50	40	10.52	10.50	38	10.55	10.55	2
2010	10.37	10.30	61	10.29	10.26	58	11.87	12.30	3
2011	10.29	10.17	42	10.19	10.14	40	12.30	12.30	2
2012	10.17	10.08	58	10.02	10.00	51	11.57	11.40	6
2013	10.03	9.95	49	9.82	9.82	40	11.34	11.40	7
2014	9.91	9.78	38	9.76	9.75	32	10.96	11.00	5
2015	9.85	9.65	30	9.60	9.53	23	10.87	11.00	6
2016	9.77	9.75	42	9.60	9.60	32	10.31	10.55	10
2017	9.74	9.60	53	9.68	9.60	42	10.01	9.95	10
2018	9.59	9.57	48	9.55	9.57	38	9.74	9.70	10

**Vertically integrated cases versus delivery-only cases**

Year	All cases			Vertically integrated cases			Delivery only cases		
	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
2007	10.30	10.20	38	10.50	10.45	26	9.86	9.98	10
2008	10.41	10.30	37	10.48	10.47	26	10.04	10.25	9
2009	10.52	10.50	40	10.66	10.66	28	10.15	10.30	10
2010	10.37	10.30	61	10.42	10.40	41	9.98	10.00	17
2011	10.29	10.17	42	10.33	10.20	28	9.85	10.00	12
2012	10.17	10.08	58	10.10	10.20	39	9.75	9.73	12
2013	10.03	9.95	49	9.95	10.00	31	9.37	9.36	9
2014	9.91	9.78	38	9.94	9.90	19	9.49	9.55	13
2015	9.85	9.65	30	9.75	9.70	17	9.17	9.07	6
2016	9.77	9.75	42	9.77	9.78	20	9.31	9.33	12
2017	9.74	9.60	53	9.80	9.65	28	9.43	9.55	14
2018	9.59	9.57	48	9.68	9.75	22	9.38	9.43	16

Data compiled Jan. 28, 2019.

Source: Regulatory Research Associates, an offering of S&amp;P Global Market Intelligence



**Gas average authorized ROEs: 2007 - 2018**

Settled versus fully litigated cases

Year	All cases			Settled cases			Fully litigated cases		
	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
2007	10.22	10.20	35	10.24	10.18	22	10.20	10.40	13
2008	10.39	10.45	32	10.34	10.28	20	10.47	10.68	12
2009	10.22	10.26	30	10.43	10.40	13	10.05	10.15	17
2010	10.15	10.10	39	10.30	10.15	12	10.08	10.10	27
2011	9.92	10.03	16	10.08	10.08	8	9.76	9.80	8
2012	9.94	10.00	35	9.99	10.00	14	9.92	9.90	21
2013	9.68	9.72	21	9.80	9.80	9	9.59	9.60	12
2014	9.78	9.78	26	9.51	9.50	11	9.98	10.10	15
2015	9.60	9.68	16	9.60	9.60	11	9.58	9.80	5
2016	9.54	9.50	26	9.50	9.50	16	9.61	9.58	10
2017	9.72	9.60	24	9.68	9.60	17	9.82	9.50	7
2018	9.59	9.60	40	9.60	9.60	24	9.59	9.50	16

**General rate cases versus limited issue riders**

Year	All cases			General rate cases			Limited issue riders		
	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations	Average ROE (%)	Median ROE (%)	Number of observations
2007	10.22	10.20	35	10.22	10.20	35	—	—	0
2008	10.39	10.45	32	10.39	10.45	32	—	—	0
2009	10.22	10.26	30	10.22	10.26	30	—	—	0
2010	10.15	10.10	39	10.15	10.10	39	—	—	0
2011	9.92	10.03	16	9.91	10.05	15	10.00	10.00	1
2012	9.94	10.00	35	9.93	10.00	34	10.40	10.40	1
2013	9.68	9.72	21	9.68	9.72	21	—	—	0
2014	9.78	9.78	26	9.78	9.78	26	—	—	0
2015	9.60	9.68	16	9.60	9.68	16	—	—	0
2016	9.54	9.50	26	9.53	9.50	25	9.70	9.70	1
2017	9.72	9.60	24	9.73	9.60	23	9.50	9.50	1
2018	9.59	9.60	40	9.59	9.60	39	9.50	9.50	1

Data compiled Jan. 28, 2019.

Source: Regulatory Research Associates, an offering of S&amp;P Global Market Intelligence

**Electric utility decisions**

Date	Company	State	ROR (%)	ROE (%)	Common equity as % of capital	Test year	Rate base	Rate change amount (\$M)	Footnotes
01/18/18	Kentucky Power Company	KY	6.44	9.70	41.68	2/17	Year-end	12.3	B
01/31/18	Public Service Company of Oklahoma	OK	6.88	9.30	48.51	12/16	Year-end	75.5	R
02/02/18	Interstate Power and Light Company	IA	7.49	9.98	49.02	12/16	Average	130.0	B, I
02/06/18	Mississippi Power Company	MS	6.62	8.58	50.45	12/18	Average	—	B, LIR, 1
02/09/18	Delmarva Power & Light Company	MD	—	—	—	9/17	—	13.4	B, D
02/09/18	Virginia Electric and Power Company	VA	7.21	10.20	50.23	3/19	Average	-6.0	LIR, 2
02/14/18	Virginia Electric and Power Company	VA	7.21	10.20	50.23	3/19	Average	-11.5	LIR, 3
02/20/18	Virginia Electric and Power Company	VA	7.21	10.20	50.23	3/19	Average	-24.6	LIR, 4
02/21/18	Virginia Electric and Power Company	VA	6.71	9.20	50.23	3/19	Average	0.2	LIR, 5
02/23/18	Duke Energy Progress, LLC	NC	7.09	9.90	52.00	12/16	Year-end	194.0	B
02/27/18	Virginia Electric and Power Company	VA	7.20	11.20	50.23	3/19	Average	14.9	LIR, 6
03/12/18	ALLETE (Minnesota Power)	MN	7.06	9.25	53.81	12/17	Average	12.0	I
03/15/18	Niagara Mohawk Power Corporation	NY	6.53	9.00	48.00	3/19	Average	160.0	B, D, Z
03/20/18	Georgia Power Company	GA	—	—	—	12/18	—	-50.0	LIR, 7
03/29/18	Consumers Energy Company	MI	5.89	10.00	40.89	9/18	Average	72.3	I, R, *
<b>2018 1st quarter: averages/total</b>			<b>6.89</b>	<b>9.75</b>	<b>48.89</b>			<b>592.6</b>	
<b>Observations</b>			<b>13</b>	<b>13</b>	<b>13</b>			<b>14</b>	
04/02/18	Appalachian Power Company	VA	—	—	—	—	—	—	LIR, 8
04/12/18	Indiana Michigan Power Company	MI	5.76	9.90	36.38	12/18	Average	49.1	*
04/13/18	Duke Energy Kentucky, Inc.	KY	6.83	9.73	49.25	3/19	Average	8.4	
04/18/18	Connecticut Light and Power Company	CT	7.09	9.25	53.00	12/16	Average	124.7	B, D, Z
04/18/18	DTE Electric Company	MI	5.34	10.00	36.84	10/18	Average	74.4	I, R, *
04/26/18	Public Service Company of Colorado	CO	—	—	—	—	—	—	9
04/26/18	Avista Corporation	WA	7.50	9.50	48.50	12/16	Average	10.8	
05/08/18	Kentucky Utilities Company	VA	—	—	—	12/16	—	1.8	B
05/10/18	Virginia Electric and Power Company	VA	6.71	9.20	50.23	6/18	—	2.8	LIR, 10
05/16/18	Appalachian Power Company	VA	—	—	—	6/19	—	1.0	LIR, 11
05/23/18	Southern Indiana Gas and Electric Company, Inc.	IN	—	—	—	10/17	Year-end	1.9	LIR
05/30/18	Indiana Michigan Power Company	IN	5.51	9.95	35.73	12/18	Year-end	153.4	B, Z, *
05/30/18	Northern Indiana Public Service Company	IN	—	—	—	11/17	Year-end	12.6	LIR
05/31/18	Potomac Electric Power Company	MD	7.03	9.50	50.44	12/17	—	-15.0	B, D
06/14/18	Central Hudson Gas & Electric Corporation	NY	6.44	8.80	48.00	6/19	Average	19.7	B, D, Z
06/19/18	Oklahoma Gas and Electric Company	OK	—	—	—	9/17	—	-64.0	B, 12
06/22/18	Hawaiian Electric Company, Inc.	HI	7.57	9.50	57.10	12/17	Average	-0.6	B, I
06/22/18	Duke Energy Carolinas, LLC	NC	7.35	9.90	52.00	12/16	Year-end	-13.0	B, R
06/28/18	Emera Maine	ME	7.18	9.35	49.00	12/16	Average	4.5	D
06/29/18	Hawaii Electric Light Company, Inc.	HI	7.80	9.50	56.69	12/16	Average	-0.1	B, I
<b>2nd quarter: averages/total</b>			<b>6.78</b>	<b>9.54</b>	<b>47.94</b>			<b>372.4</b>	
<b>Observations</b>			<b>13</b>	<b>13</b>	<b>13</b>			<b>18</b>	

(continued on next page)

**Electric utility decisions**

Date	Company	State	ROR (%)	ROE (%)	Common equity as % of capital	Test year	Rate base	Rate change amount (\$M)	Footnotes
07/03/18	Virginia Electric and Power Company	VA	6.71	9.20	50.23	8/19	Average	3.3	LIR,13
07/03/18	Virginia Electric and Power Company	VA	7.21	10.20	50.23	8/19	Average	-11.1	LIR,14
07/10/18	Duke Energy Florida, LLC	FL	—	—	—	—	—	200.5	B, LIR, Z,15
07/25/18	Atlantic City Electric Company	NJ	—	—	—	12/18	—	—	D,16
08/08/18	Potomac Electric Power Company	DC	7.45	9.53	50.44	12/17	—	-24.1	B, D
08/21/18	Delmarva Power & Light Company	DE	6.78	9.70	50.52	12/17	—	-6.9	B, D, I
08/24/18	Narragansett Electric Company	RI	6.97	9.28	50.95	6/17	Average	28.9	B, D, Z,
08/31/18	Appalachian Power Company	WV	—	—	—	12/17	—	91.6	B, LIR, 17
09/05/18	Southwestern Public Service Company	NM	6.85	9.10	51.00	6/18	Year-end	8.1	
09/14/18	Wisconsin Power and Light Company	WI	7.09	10.00	52.00	12/20	Average	0.0	B,18
09/20/18	Madison Gas and Electric Company	WI	7.10	9.80	56.06	12/20	Average	-9.2	B
09/26/18	Otter Tail Power Company	ND	7.64	9.77	52.50	12/18	Average	7.4	B, I
09/26/18	Dayton Power and Light Company	OH	7.27	10.00	47.52	5/16	Date certain	29.8	B, D
09/27/18	Westar Energy, Inc.	KS	7.06	9.30	51.24	6/17	Year-end	-50.3	B
<b>2018</b>	<b>3rd quarter: averages/total</b>		<b>7.10</b>	<b>9.63</b>	<b>51.15</b>			<b>268.0</b>	
	<b>Observations</b>		<b>11</b>	<b>11</b>	<b>11</b>			<b>13</b>	
10/04/18	UGI Utilities, Inc.	PA	7.48	9.85	54.02	9/19	Year-end	3.2	D
10/09/18	Duke Energy Indiana, LLC	IN	—	—	—	12/17	—	14.3	LIR,19
10/29/18	Public Service Electric and Gas Company	NJ	6.99	9.60	54.00	6/18	Year-end	88.9	B, D, I
10/31/18	Indianapolis Power & Light Company	IN	6.59	9.99	39.67	6/17	Year-end	43.9	B,*
10/31/18	Kansas City Power & Light Company	MO	—	—	—	6/17	—	-21.1	B
10/31/18	KCP&L Greater Missouri Operations Company	MO	—	—	—	6/17	—	-24.0	B
11/01/18	Ameren Illinois Company	IL	6.99	8.69	50.00	12/17	Year-end	73.7	D
11/28/18	Northern Indiana Public Service Company	IN	—	—	—	5/18	Year-end	14.8	B, LIR,19
12/04/18	Commonwealth Edison Company	IL	6.52	8.69	47.11	12/17	Year-end	-26.1	D
12/05/18	Southern Indiana Gas and Electric Company	IN	—	—	—	4/18	Year-end	3.9	LIR,19
12/07/18	Southwestern Public Service Company	TX	—	—	—	6/17	—	0.0	B, I,20
12/12/18	Entergy Arkansas, LLC	AR	5.26	—	36.55	12/19	Average	189.7	B,*
12/13/18	Kansas City Power & Light Company	KS	7.07	9.30	49.09	9/17	—	-3.9	B
12/14/18	Portland General Electric Company	OR	7.30	9.50	50.00	12/19	Year-end	8.6	B
12/19/18	Duke Energy Ohio, Inc.	OH	7.54	9.84	50.75	3/17	Date certain	-19.2	B, D
12/19/18	Virginia Electric and Power Company	VA	6.86	9.20	51.37	1/20	Average	47.3	LIR,21
12/20/18	Duquesne Light Company	PA	—	—	—	12/19	—	92.7	B, D
12/20/18	PECO Energy Company	PA	—	—	—	12/19	—	24.9	B, D
12/20/18	Entergy Texas, Inc.	TX	—	—	—	12/17	—	53.2	B, I
12/20/18	Texas-New Mexico Power Company	TX	7.89	9.65	45.00	12/17	Year-end	22.8	B, D
12/21/18	Green Mountain Power Corporation	VT	5.26	9.30	49.85	9/17	Average	23.5	D
12/27/18	NSTAR Electric Company	MA	—	—	—	—	—	31.9	D,22
<b>2018</b>	<b>4th quarter: averages/total</b>		<b>6.81</b>	<b>9.42</b>	<b>48.12</b>			<b>643.0</b>	
	<b>Observations</b>		<b>12</b>	<b>11</b>	<b>12</b>			<b>22</b>	
<b>2018</b>	<b>Full year: averages/total</b>		<b>6.89</b>	<b>9.59</b>	<b>48.95</b>			<b>1,876.0</b>	
	<b>Observations</b>		<b>49</b>	<b>48</b>	<b>49</b>			<b>67</b>	

Data compiled Jan. 28, 2019.

Source: Regulatory Research Associates, an offering of S&amp;P Global Market Intelligence

**Gas utility decisions**

Date	Company	State	ROR (%)	ROE (%)	Common equity as % of capital	Test year	Rate base	Rate change amount (\$M)	Footnotes
01/24/18	Indiana Gas Company, Inc.	IN	—	—	—	6/17	Year-end	8.4	LIR,23
01/24/18	Southern Indiana Gas and Electric Company, Inc.	IN	—	—	—	6/17	Year-end	1.3	LIR,23
01/31/18	Northern Illinois Gas Company	IL	7.26	9.80	52.00	12/18	Average	93.5	R
02/21/18	Missouri Gas Energy	MO	7.20	9.80	54.16	12/16	Year-end	15.2	
02/21/18	Spire Missouri Inc.	MO	7.20	9.80	54.16	12/16	Year-end	18.0	
02/27/18	Atmos Energy Corporation	KS	—	—	—	9/17	—	0.8	LIR,24
02/28/18	Northern Utilities, Inc.	ME	7.53	9.50	50.00	12/16	Average	-0.1	
03/15/18	Niagara Mohawk Power Corporation	NY	6.53	9.00	48.00	3/19	Average	45.5	B, Z
03/26/18	Pivotal Utility Holdings, Inc.	FL	—	10.19	48.00	12/18	—	15.3	B, Z, I
<b>2018 1st quarter: averages/total</b>			<b>7.14</b>	<b>9.68</b>	<b>51.05</b>			<b>198.0</b>	
<b>Observations</b>			<b>5</b>	<b>6</b>	<b>6</b>			<b>9</b>	
04/26/18	Avista Corporation	WA	7.50	9.50	48.50	12/16	Average	-2.1	
04/27/18	Liberty Utilities (EnergyNorth Natural Gas) Corp.	NH	6.80	9.30	49.21	12/16	Year-end	8.1	Z, I
05/02/18	Northern Utilities, Inc.	NH	7.59	9.50	51.70	12/16	Year-end	0.9	B, Z, I
05/03/18	Atmos Energy Corporation	KY	7.41	9.70	52.57	3/19	Average	-1.9	
05/10/18	CenterPoint Energy Resources Corp.	MN	7.12	—	—	9/18	Average	3.9	B, I
05/15/18	Atlanta Gas Light Company	GA	—	—	55.00	12/18	—	-16.0	B
05/29/18	MDU Resources Group, Inc.	MT	—	9.40	—	—	—	1.0	B
05/30/18	Baltimore Gas and Electric Company	MD	6.69	—	—	12/23	—	68.0	LIR, Z,25
06/06/18	Liberty Utilities (Midstates Natural Gas) Corp	MO	—	9.80	—	6/17	Year-end	4.6	B
06/14/18	Central Hudson Gas & Electric Corporation	NY	6.44	8.80	48.00	6/19	Average	6.7	B, Z
06/19/18	Black Hills Kansas Gas Utility Company, LLC	KS	—	—	—	2/18	Year-end	0.6	LIR
<b>2018 2nd quarter: averages/total</b>			<b>7.08</b>	<b>9.43</b>	<b>50.83</b>			<b>73.8</b>	
<b>Observations</b>			<b>7</b>	<b>7</b>	<b>6</b>			<b>11</b>	
07/16/18	Black Hills Northwest Wyoming Gas Utility Company, LLC	WY	7.75	9.60	54.00	6/17	Year-end	1.0	B
07/20/18	Cascade Natural Gas Corporation	WA	7.31	9.40	49.00	12/16	Average	-2.9	B
08/15/18	Virginia Natural Gas, Inc.	VA	6.86	9.50	48.74	8/19	Average	3.2	LIR,26
08/21/18	Delta Natural Gas Company, Inc.	KY	—	—	—	12/17	Year-end	2.2	LIR,27
08/22/18	Northern Indiana Public Service Company	IN	—	—	—	12/17	Year-end	14.2	LIR,19
08/24/18	Narragansett Electric Company	RI	7.15	9.28	50.95	6/17	Average	17.4	B, Z
08/28/18	Consumers Energy Company	MI	5.86	10.00	40.91	6/19	Average	10.6	B,*
09/05/18	Indiana Gas Company, Inc.	IN	—	—	—	12/17	Year-end	9.8	LIR,28
09/05/18	Southern Indiana Gas and Electric Company, Inc.	IN	—	—	—	12/17	Year-end	2.2	LIR,29
09/11/18	CenterPoint Energy Resources Corp.	AR	4.69	—	31.52	9/19	Year-end	5.1	B,*
09/13/18	DTE Gas Company	MI	5.56	10.00	38.30	9/19	Average	9.0	*
09/14/18	Wisconsin Power and Light Company	WI	6.97	10.00	52.00	12/18	Average	0.0	B,30

(continued on next page)

**Gas utility decisions**

Date	Company	State	ROR (%)	ROE (%)	Common equity as % of capital	Test year	Rate base	Rate change amount (\$M)	Footnotes
09/19/18	Northern Indiana Public Service Company	IN	6.50	9.85	46.88	12/18	Year-end	107.3	B, Z
09/19/18	Bay State Gas Company	MA	—	—	—	—	—	—	31
09/20/18	Missouri Gas Energy	MO	—	—	—	4/18	—	5.4	LIR
09/20/18	Spire Missouri Inc.	MO	—	—	—	4/18	—	2.6	LIR
09/20/18	Madison Gas and Electric Company	WI	7.10	9.80	56.06	12/20	Average	4.1	B,Z
09/26/18	MDU Resources Group, Inc.	ND	7.24	9.40	51.00	12/18	Average	2.5	B, I
09/26/18	Piedmont Natural Gas Company, Inc.	SC	7.60	10.20	53.00	3/18	Year-end	-13.9	B,M
09/26/18	South Carolina Electric & Gas Co.	SC	8.05	—	49.83	3/18	Year-end	-19.7	M
09/28/18	Boston Gas Company	MA	7.01	9.50	53.04	12/16	Year-end	100.8	
09/28/18	Colonial Gas Company	MA	7.18	9.50	53.04	12/16	Year-end	17.8	
09/28/18	Columbia Gas of Maryland, Incorporated	MD	—	—	—	12/19	Average	2.0	B, LIR,32
<b>2018 3rd quarter: averages/total</b>			<b>6.86</b>	<b>9.69</b>	<b>48.55</b>			<b>280.8</b>	
<b>Observations</b>			<b>15</b>	<b>13</b>	<b>15</b>			<b>22</b>	
10/04/18	CenterPoint Energy Resources Corp.	OK	—	—	—	12/17	—	5.4	33
10/05/18	Black Hills Energy Arkansas, Inc.	AR	5.62	9.61	40.43	12/17	Year-end	22.6	B
10/15/18	Chattanooga Gas Company	TN	7.12	9.80	49.23	6/19	Average	1.4	
10/26/18	Northwest Natural Gas Company	OR	7.32	9.40	50.00	10/19	Average	23.4	B
10/26/18	Columbia Gas of Virginia, Incorporated	VA	7.47	—	—	12/19	Average	2.4	LIR
10/29/18	Public Service Electric and Gas Company	NJ	6.99	9.60	54.00	6/18	Year-end	123.1	B
11/01/18	Ameren Illinois Company	IL	7.14	9.87	50.00	12/19	Average	31.7	B
11/08/18	Delmarva Power & Light Company	DE	6.78	9.70	50.52	12/17	—	-3.5	B, I
11/08/18	Kansas Gas Service Company, Inc.	KS	—	—	—	6/18	Year-end	2.4	LIR,34
11/21/18	Columbia Gas of Maryland, Incorporated	MD	—	—	—	4/18	—	3.8	B
12/03/18	Washington Gas Light Company	VA	—	—	—	12/19	Average	-1.7	LIR,26
12/04/18	Atmos Energy Corporation	TN	7.26	—	51.40	5/19	Average	-5.0	B,35
12/05/18	Columbia Gas of Kentucky, Incorporated	KY	7.62	—	52.42	12/19	Year-end	3.6	LIR,36
12/06/18	Columbia Gas of Pennsylvania, Inc.	PA	—	—	—	12/19	—	26.0	B
12/11/18	Washington Gas Light Company	MD	7.30	9.70	51.69	3/18	Average	28.6	
12/11/18	Washington Gas Light Company	MD	—	—	—	12/23	Average	31.7	LIR, Z,25
12/12/18	Yankee Gas Services Company	CT	7.06	9.30	53.76	12/17	Average	30.2	B, Z
12/13/18	Interstate Power and Light Company	IA	7.29	9.60	51.00	12/17	Average	13.9	B, I
12/19/18	Connecticut Natural Gas Corporation	CT	7.32	9.30	55.00	12/17	Average	19.7	B, Z
12/21/18	Public Service Company of Colorado	CO	7.12	9.35	54.60	12/16	Average	22.0	Z, I
12/24/18	Southwest Gas Corporation	NV	7.04	9.25	49.66	1/18	Year-end	-2.0	37
12/24/18	Southwest Gas Corporation	NV	6.66	9.25	49.66	1/18	Year-end	9.5	38
12/26/18	Minnesota Energy Resources Corporation	MN	6.70	9.70	50.90	12/18	Average	3.1	I
12/27/18	Northern Indiana Public Service Company	IN	—	—	—	6/18	—	-7.0	B, LIR
<b>2018 4th quarter: averages/total</b>			<b>7.05</b>	<b>9.55</b>	<b>50.89</b>			<b>384.9</b>	
<b>Observations</b>			<b>17</b>	<b>14</b>	<b>16</b>			<b>24</b>	
<b>2018 Full year: averages/total</b>			<b>7.00</b>	<b>9.59</b>	<b>50.09</b>			<b>937.6</b>	
<b>Observations</b>			<b>44</b>	<b>40</b>	<b>43</b>			<b>66</b>	

Data compiled Jan. 28, 2019.

Source: Regulatory Research Associates, an offering of S&amp;P Global Market Intelligence

**Footnotes**

- A Average.
- B Order followed stipulation or settlement by the parties. Decision particulars not necessarily precedent setting or specifically adopted by the regulatory body.
- CWIP Construction work in progress.
- D Applies to electric delivery only.
- DCt Date-certain rate base valuation.
- E Estimated.
- F Return on fair value rate base.
- ppl Interim rates implemented prior to the issuance of final order, normally under bond and subject to refund.
- LIR Limited-issue rider proceeding.
- M "Make-whole" rate change based on return on equity or overall return authorized in previous case.
- R Revised.
- Te Temporary rates implemented prior to the issuance of final order.
- Tr Applies to transmission service.
- U Double-leverage capital structure utilized.
- YE Year-end.
- Z Rate change implemented in multiple steps.
- \* Capital structure includes cost-free items or tax credit balances at the overall rate of return.
- 1 Decision adopted a company filing specifying a \$99.3 million plant-specific retail revenue requirement. According to the company, this results in an annual rate reduction of approximately \$26.8 million.
- 2 Rate change was approved under Rider R, which is the mechanism through which the company recovers its investment in the Bear Garden power plant.
- 3 Rate change was approved under Rider W, which is the mechanism through which the company recovers its investment in the Warren County generation facility.
- 4 Rate change was approved under Rider S, which is the mechanism through which the company recovers its investment in the Virginia City Hybrid Energy Center.
- 5 Rate change was approved under Rider GV, which is the mechanism through which the company recovers its investment in the Greenville County generation facility.
- 6 Rate change was approved under Rider B, which is the mechanism through which the company recovers the costs associated with the conversion of the Altavista, Hopewell and Southampton power stations to burn biomass fuels.
- 7 Reduction ordered to the nuclear construction cost recovery tariff associated with the company's two new units being built at its Vogtle plant.
- 8 Proposed acquisition of the Beech Ridge II and Hardin wind generation facilities and an associated rider were rejected. No initial revenue requirement had been proposed.
- 9 Rate case dismissed.
- 10 Rate change was approved under Rider DSM, which is the mechanism through which the company is permitted to collect a cash return on demand-side management program costs.
- 11 Rate change was approved under Rider RAC-EE, which is the mechanism through which the company recovers its investment in energy efficiency programs.
- 12 ROE to be used for certain riders and AFUDC purposes is 9.5%.
- 13 Rate change was approved under Rider US-2, which is the mechanism through which the company recovers its investment in three utility-scale solar facilities: Scott Solar, Whitehouse Solar and Woodland Solar.
- 14 Rate change was approved under Rider BW, which is the mechanism through which the company recovers its investment in the Brunswick Power Station.
- 15 Rate change pertains to the company's Citrus County CC natural gas plant that is nearing completion.

*(continued on next page)*

## Footnotes

- 16 Case was dismissed without prejudice.
- 17 Rate change was approved under the company's joint expanded net energy cost proceeding.
- 18 Decision freezes electric rates at 2017 levels for 2018 and 2019.  
Case involves company's transmission, distribution and storage system improvement charge, or TDSIC, rate adjustment mechanism.
- 19 Settlement called for no change to the company's base rates or the revenue requirement under the company's transmission cost recovery factor.
- 20 Rate change was approved under Rider U, which is the mechanism through which the company recovers its investment in projects to underground certain "at risk" distribution facilities.
- 21 Annual rate adjustment under the company's performance-based ratemaking plan.  
Case established the rates to be charged to customers under the company's compliance and system improvement adjustment, or CSIA, mechanism, which includes both federally mandated pipeline-safety initiatives and projects that are permitted under the state's TDSIC statute.
- 22 Reflects updates to the company's gas system reliability surcharge rider since its most recent base rate case.
- 23 Rate change was approved under the company's Strategic Infrastructure Development and Enhancement, or STRIDE, program rider. Total is to be phased in over five years; each annual adjustment is subject to review and true-up.
- 24 Case involves the company's investment made under Virginia Steps to Advance Virginia Energy infrastructure program.
- 25 Case involves the company's pipe replacement program rider.
- 26 Case involves the company's CSIA mechanism and projects that are permitted under the state's TDSIC statute.
- 27 Pertains to investments made under the company's CSIA mechanism and projects that are permitted under the state's TDSIC statute.
- 28 Freezes gas rates at 2017 levels for 2018 and 2019.
- 29 Rate case withdrawn.
- 30 Case relates to the company's investment in its STRIDE program; revenue requirements are collected through the infrastructure replacement and improvement surcharge, or IRIS.
- 31 Rate change under company's performance-based ratemaking plan.
- 32 Case involves company's gas system reliability surcharge.
- 33 Rate change under company's annual rate mechanism.
- 34 Case involves company's accelerated main replacement program rider.
- 35 Rate case parameters reflect company's Northern operations.
- 36 Rate case parameters reflect company's Southern operations.



Source: S&P Global Market Intelligence

**Table 5: Electric and gas utility decisions**

**Electric utility decisions**

Date	Company	State	ROR (%)	ROE (%)	Common equity as % of capital	Test year	Rate base	Rate change amount (\$)	Footnotes
1/2/19	Appalachian Power Company	VA	7.76	10.40	—	2/20	Average	7.2	B, LIR,1
1/2/19	Monongahela Power Company	WV	—	—	—	6/18	—	-100.9	B, LIR,2
1/9/19	Consumers Energy Company	MI	—	10.00	—	12/19	Average	-24.0	B
2/21/19	Puget Sound Energy, Inc.	WA	—	—	—	6/18	Year-end	0.0	B,3
2/27/19	Virginia Electric and Power Company	VA	6.87	9.20	51.37	3/20	—	-4.0	LIR,4
2/27/19	Virginia Electric and Power Company	VA	6.87	9.20	51.37	3/20	Average	38.4	LIR,5
2/27/19	Virginia Electric and Power Company	VA	7.38	10.20	51.37	3/20	Average	-8.6	LIR,6
2/27/19	Virginia Electric and Power Company	VA	7.38	10.20	51.37	3/20	Average	-3.5	LIR,7
2/27/19	Virginia Electric and Power Company	VA	7.38	10.20	51.37	3/20	Average	-4.3	LIR,8
2/27/19	Appalachian Power Company	WV	7.28	9.75	50.16	12/17	Average	44.2	B
3/6/19	Oklahoma Gas and Electric Company	AR	5.27	—	37.31	3/20	Year-end	3.3	B,9,*
3/13/19	Atlantic City Electric Company	NJ	7.08	9.60	49.94	12/18	Year-end	70.0	B, D
3/14/19	Orange and Rockland Utilities, Inc.	NY	6.97	9.00	48.00	12/19	Average	13.4	B, D, Z
3/14/19	Public Service Company of Oklahoma	OK	6.97	9.40	—	3/18	—	46.0	B
3/22/19	Potomac Edison Company	MD	7.15	9.65	52.82	6/18	Average	6.2	D
<b>2019</b>	<b>1st quarter: averages/total</b>		<b>7.03</b>	<b>9.73</b>	<b>49.51</b>			<b>83.5</b>	
	<b>Observations</b>		<b>12</b>	<b>12</b>	<b>10</b>			<b>15</b>	

**Gas utility decisions**

Date	Company	State	ROR (%)	ROE (%)	Common equity as % of capital	Test year	Rate base	Rate change amount (\$)	Footnotes
1/4/19	Baltimore Gas and Electric Company	MD	7.09	9.80	52.85	7/18	Average	64.9	
1/8/19	Oklahoma Natural Gas Company	OK	—	—	—	12/17	—	-5.9	B,10
1/18/19	Berkshire Gas Company	MA	8.33	9.70	54.00	12/17	—	2.4	B
1/29/19	Indiana Gas Company, Inc.	IN	—	—	—	6/18	Year-end	-13.1	LIR,11
1/29/19	Southern Indiana Gas and Electric Company	IN	—	—	—	6/18	Year-end	-0.8	LIR,11
2/5/19	Kansas Gas Service Company, Inc.	KS	—	—	—	12/17	—	21.5	B
2/21/19	Puget Sound Energy, Inc.	WA	—	—	—	6/18	Year-end	21.5	B,3
3/14/19	Orange and Rockland Utilities, Inc.	NY	6.97	9.00	48.00	12/19	Average	-7.5	B, Z
3/27/19	Duke Energy Kentucky, Inc.	KY	7.07	9.70	50.76	3/20	Average	7.4	B
<b>2019</b>	<b>1st quarter: averages/total</b>		<b>7.37</b>	<b>9.55</b>	<b>51.40</b>			<b>90.4</b>	
	<b>Observations</b>		<b>4</b>	<b>4</b>	<b>4</b>			<b>9</b>	

Data compiled April 9, 2019.

Source: Regulatory Research Associates, a group within S&P Global Market Intelligence

**Footnotes**

A- Average

B- Order followed stipulation or settlement by the parties. Decision particulars not necessarily precedent-setting or specifically adopted by the regulatory body.



CWIP-	Construction work in progress
D-	Applies to electric delivery only
DCt	Date certain rate base valuation
E-	Estimated
F-	Return on fair value rate base
Hy-	Hypothetical capital structure utilized
I-	Interim rates implemented prior to the issuance of final order, normally under bond and subject to refund.
LIR	Limited-issue rider proceeding
M-	"Make-whole" rate change based on return on equity or overall return authorized in previous case.
R-	Revised
Te-	Temporary rates implemented prior to the issuance of final order.
Tr-	Applies to transmission service
U-	Double leverage capital structure utilized.
YE-	Year-end
Z-	Rate change implemented in multiple steps.
*	Capital structure includes cost-free items or tax credit balances at the overall rate of return.
1	This case addresses the company's investment in the Dresden Generating Plant.
2	Relates to company's expanded net energy cost proceeding.
3	Rates were established under an expedited rate filing.
4	Rate change was approved under Rider B, which is the mechanism through which the company recovers the costs associated with the conversion of the Altavista, Hopewell and Southampton power stations to burn biomass fuels.
5	Rate change was approved under Rider GV, which is the mechanism through which the company recovers its investment in the Greenville County generation facility.
6	Rate change was approved under Rider R, which is the mechanism through which the company recovers its investment in the Bear Garden power plant.
7	Rate change was approved under Rider S, which is the mechanism through which the company recovers its investment in the Virginia City Hybrid Energy Center.
8	Rate change was approved under Rider W, which is the mechanism through which the company recovers its investment in the Warren County generation facility.
9	Rate change pursuant to company's formula rate plan.
10	Rate change pursuant to company's performance-based regulation plan.
11	Case established the rates to be charged to customers under the company's compliance and system improvement adjustment, or CSIA, mechanism, which includes both federally mandated pipeline-safety initiatives and projects that are permitted under the state's TDSIC statute.

**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**7/25/2019 11:27:27 AM**

**in**

**Case No(s). 18-1720-GA-AIR, 18-1721-GA-ATA, 18-1722-GA-ALT**

Summary: Testimony Direct Testimony of Daniel J. Duann, Ph.D, on Behalf of the Office of the Ohio Consumers' Counsel electronically filed by Ms. Deb J. Bingham on behalf of Healey, Christopher Mr.